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JANUARY 2013 THIRD QUARTERLY GROUNDWATER MONITORING REPORT FOR TRUCK FILL STAND REVISION 1 NAS KEY WEST FL

4/1/2013

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Revision 1

January 2013 (Third) Quarterly Groundwater Monitoring Report Truck Fill Stand

Naval Air Station Key West
Boca Chica Key, Florida

Naval Facilities Engineering Command

Prepared for

Department of the Navy

Naval Facilities Engineering Command Southeast

Contract No.
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CTO-JM08

April 2013

Prepared by

CH2MHILL®

PROFESSIONAL CERTIFICATION

This Quarterly Groundwater Monitoring Report for the Truck Fill Stand located at the Naval Air Station Key West, Boca Chica Key, Florida, was prepared under the direction of a Florida-licensed professional geologist in accordance with Florida Rules and Regulations, as authorized by Chapters 492 or 471, Florida Statutes. The undersigned certifies that, to the best of his knowledge and belief, the technical data provided herein are complete and accurate, and comply with all requirements for such assessments.

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Executive Summary

Between January 14 and 17, 2013, CH2M HILL conducted a quarterly groundwater monitoring event at the Truck Fill Stand (TFS) site located at the Naval Air Station (NAS) Key West, Boca Chica Key, Florida. The work was performed under the Naval Facilities Engineering Command Southeast (NAVFAC SE) Multimedia Contract No. N62470-10-D-3009, Task Order JM08. The work consisted of performing a comprehensive round of well gauging and collecting groundwater samples from nine monitoring wells (TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-8D, TFS-MW-11, TFS-MW-12, TFS-MW-15, TFS-MW-16, and TFS-MW-17) for the analysis of Appendix IX volatile organic compounds (VOCs), Appendix IX semivolatile organic compounds (SVOCs), and total recoverable petroleum hydrocarbons (TRPH).

Gauging data indicate groundwater elevations ranged from 1.29 feet above mean sea level (msl) to 2.02 feet above msl, and the direction of groundwater flow was toward the west to southwest. The average horizontal gradient of the water table aquifer was estimated to be 0.010 foot per foot (ft/ft) and the seepage velocity was calculated to be 0.60 foot per day (ft/day) or 219 feet per year (ft/year). Light non-aqueous phase liquid (LNAPL) was not detected in groundwater.

Test results from the nine monitoring wells were as follows:

- VOCs benzene and xylenes were detected in monitoring well TFS-MW-15; benzene was the only VOC detected in well TFS-MW-04. All concentrations were below their respective Groundwater Cleanup Target Levels (GCTLs) and marine Surface Water Cleanup Target Levels (SWCTLs). No VOCs were detected in the remaining seven monitoring wells.
- Sixteen SVOCs were detected in groundwater. SVOCs were detected in monitoring wells TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, TFS-MW-15, TFS-MW-16, and TFS-MW-17. Based on poor quality criteria, two SVOCs, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene, exceeded their respective GCTLs in wells TFS-MW-04 and TFS-MW-11.
- SVOCs anthracene, fluoranthene, and pyrene were detected in well TFS-MW-15 at concentrations exceeding their respective marine SWCTLs. The sum of acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,i,h)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h,)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene exceeded the marine SWCTL criterion of 0.031 µg/L at locations TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, and TFS-MW-15.
- SVOCs were not detected in wells TFS-MW-8D and TFS-MW-12.
- TRPH was detected each monitoring well sampled at concentrations ranging from 420J micrograms per liter (µg/L) (well TFS-MW-16) to 23,500 µg/L (well TFS-MW-15). The GCTL for TRPH of 50,000 µg/L was not exceeded based upon the “poor quality” criterion.
- The TRPH marine SWCTL of 5,000 µg/L was exceeded in wells TFS-MW-04 and TFS-MW-15.
- Overall, the water quality parameters measured during well purging and sampling indicate that conditions are favorable for the biodegradation of hydrocarbons to occur.

Based upon the groundwater sampling for VOCs collected during the site assessment addendum (April 2012), the first quarter monitoring event (July 2012), the second quarter monitoring event (October 2012), and the January 2013 monitoring event, the data demonstrate that the “poor quality” GCTLs and marine SWCTLs have been met for four consecutive groundwater sampling events. In accordance with the requirements of Chapter 62-770.690(8)(g) of the Florida Administrative Code (F.A.C.), only two consecutive sampling events are required to demonstrate compliance at sites remediated through natural attenuation processes. Therefore, CH2M HILL recommends:

- Complete an ecological risk assessment to evaluate the potential risk to ecological receptors in the wetland area to the west of the TFS.

- Discontinue groundwater monitoring for VOCs at the TFS site.
- Continue quarterly groundwater monitoring to evaluate fluctuations in SVOC and TRPH concentrations. Specifically during each event, samples should be analyzed for polynuclear aromatic hydrocarbons (PAHs).

Contents

Executive Summary **ES-1**

Acronyms and Abbreviations ..... **iii**

1 Introduction **1-1**
1.1 Site Description 1-1
1.2 Site History 1-3

2 Field Activities **2-1**
2.1 Field Activity Summary 2-1
2.2 Groundwater Level Measurements and Sampling 2-1
2.3 Investigation-Derived Waste 2-4

3 Investigation Findings **3-1**
3.1 Hydrogeology 3-1
3.1.1 Groundwater 3-1
3.2 Field Parameters 3-3
3.2.1 Temperature 3-3
3.2.2 Specific Conductance 3-3
3.2.3 Dissolved Oxygen 3-3
3.2.4 Oxidation-Reduction Potential 3-3
3.2.5 pH 3-3
3.3 Sample Results 3-7
3.3.1 Groundwater 3-7

4 Conclusions and Recommendations **4-1**
4.1 Conclusions 4-1
4.1.1 Hydrogeology 4-1
4.1.2 Groundwater 4-1
4.2 Recommendations 4-1

5 References **5-1**

Tables

2-1 Field Activity Summary 2-1
2-2 Water Level Elevation Data 2-4
3-1 Historical Calculated Vertical Hydraulic Gradients 3-1
3-2 Field Parameters 3-5
3-3 Groundwater Analytical Data Summary 3-9

Figures

1-1 Site Location Map 1-2
2-1 Monitoring Well Locations 2-3
3-1 Potentiometric Surface Map (January 2013) 3-2
3-2 Compounds Detected in Groundwater 3-11

Appendixes

A Well Purge and Sample Logs
B Data Validation Summary and Laboratory Data

Acronyms and Abbreviations

°C	degrees Celsius
µg/L	microgram per liter
AFVR	aggressive fluid vapor recovery
AST	aboveground storage tank
BBL	Blasland, Bouck, & Lee, Inc.
BCTF	Boca Chica Tank Farm
bgs	below ground surface
BTOC	below top of casing
CO_2	carbon dioxide
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FL PRO	Florida Petroleum Residual Organic
ft	foot/feet
ft/day	feet per day
ft/ft	foot per foot
ft/year	feet per year
GCTL	Groundwater Cleanup Target Level
IDW	investigation-derived waste
IRA	interim remedial action
JP-5	jet propulsion fuel no. 5
LNAPL	light non-aqueous phase liquid
mg/L	milligrams per liter
MNA	monitored natural attenuation
msl	mean sea level
mS/cm	milliSiemens per centimeter
mV	millivolts
NA	not available
NAS	Naval Air Station
NAVFAC SE	Naval Facilities Engineering Command Southeast
NFA	no further action
NM	not measured

NTU	nephelometric turbidity unit
OES	Omega Environmental Services, Inc.
ORP	oxidation-reduction potential
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbon
POL	petroleum, oils, and lubricants
QA	quality assurance
QC	quality control
SAR	Site Assessment Report
SQAG	Sediment Quality Assessment Guidelines
SRCR	site rehabilitation completion report
SSAR	Supplemental Site Assessment Report
SVOC	semivolatile organic compound
SWCTL	Surface Water Cleanup Target Level
TFS	Truck Fill Stand
TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbon
TtNUS	Tetra Tech NUS, Inc.
UST	underground storage tank
V	velocity
VOC	volatile organic compound

SECTION 1

Introduction

CH2M HILL, Inc. has been contracted by Naval Facilities Engineering Command Southeast (NAVFAC SE), to conduct quarterly groundwater monitoring activities and prepare quarterly groundwater monitoring reports under Multimedia Contract No. N62470-10-D-3009, Contract Task Order JM08. The purpose of this quarterly report is to document the field activities, results, conclusions, and recommendations obtained from the sampling event performed in January 2013. Field activities included completion of a site-wide comprehensive groundwater gauging event, and collection of groundwater samples from nine monitoring wells at the Truck Fill Stand (TFS) site located at the Naval Air Station (NAS) Key West in Boca Chica Key, Florida.

This quarterly report is organized into the following sections:

- Section 1, Introduction
- Section 2, Field Activities
- Section 3, Investigation Findings
- Section 4, Conclusions and Recommendations
- Section 5, References

Tables and figures are presented in each section to support the discussions. Appendixes A and B provide supporting information including sampling logs, data validation, and laboratory reports.

1.1 Site Description

NAS Key West is located in southern Monroe County, Florida, approximately 150 miles southwest of Miami. The TFS is located on Boca Chica Key, Florida (Figure 1-1). The TFS is an active facility used to fill tanker trucks for refueling aircraft. Fuel from the Boca Chica Tank Farm (BCTF) located approximately 4,000 feet southwest of the TFS is pumped to the southwest portion of the TFS through twin 6-inch-diameter steel underground pipelines. Fuel is pumped and transferred at the fueling area to tanker trucks. Trucks routinely leave and return to the site for fueling missions and related airfield operations. The TFS is also referred to as Building A-902 in reference to the former operations building that stood on the southeast side of this facility (Tetra Tech NUS, Inc. [TtNUS], 2011).

The TFS, including former Building A-902, dates back to the 1940s and was part of the original NAS Key West infrastructure. Building A-902 was the original Administration Building for NAS Key West. The layout of the site has changed since it was first used as a fueling point in 1945. Documented environmental management activities began in the mid-1970s with the reporting of tank removals, implementation of numbering systems, and tank replacements. No other documented uses of the site exist (TtNUS, 2011).

Land surface at the TFS is generally flat and is mostly paved with asphalt and concrete. The site is not paved at the northern and western areas. Wetland areas are located immediately east and northeast of the site (TtNUS, 2011).

North

0 25 50 100
Feet

FIGURE 1-1
Site Location Map
NAS Key West
Boca Chica Key, Florida

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1.2 Site History

Several spills and cleanup actions have been documented at the TFS. A 1,000-gallon underground storage tank (UST) designated Tank A-935 (also known as Tank A-902B), used for storing oily wastewater from the jet fuel filter system, was removed from the site in 1995. One 250-gallon aboveground storage tank (AST), Tank A-935-R, used for the same purpose, remains on site (Blasland, Bouck, & Lee, Inc. [BBL], 2001). The UST closure report for Tank A-935 indicated that the tank was in excellent condition; however, light non-aqueous phase liquid (LNAPL) was observed floating on groundwater during the tank excavation (Omega Environmental Services, Inc. [OES], 1995).

In April 1999, NAVFAC SE submitted a Site Assessment Report (SAR) for Building A-902 to the Florida Department of Environmental Protection (FDEP) (TtNUS, 1999). The SAR indicated that site soil and groundwater had been contaminated by petroleum hydrocarbons, presumably from past tanker truck spills. The SAR included recommendations for interim remedial action (IRA) followed by a supplemental assessment. FDEP approved the SAR on May 10, 1999.

In late January 2000, less than 25 gallons of fuel were inadvertently released into a catch basin that was under repair, resulting in the contamination of soil. The Navy excavated the contaminated soil and screened soil samples using an organic vapor analyzer (OVA) to confirm that all affected soil had been removed. In late February/early March 2000, approximately 100 gallons of fuel were released in the same area. However, the catch basin had been repaired and all fuel was reportedly contained within the catch basin and later pumped out (BBL, 2001).

In March 2000, workers constructing the new Petroleum, Oils, and Lubricants (POL) Laboratory building adjacent to the TFS discovered discolored soil with a strong petroleum odor in trenches excavated for the building footers. Based on these findings, the Navy retained BBL to perform an investigation of the area. Two monitoring wells (TFS-MW-09 and TFS-MW-10) were installed on the north and south sides of the building and sampled for petroleum hydrocarbons. Benzene was detected in groundwater samples from both wells at concentrations that exceeded the Groundwater Cleanup Target Level (GCTL) of 1 microgram per liter (µg/L), as specified in Florida Administrative Code (F.A.C.) Chapter 62-777, Table I. BBL concluded that the plume was not adequately defined in the area of the new POL Laboratory building and additional assessment was necessary. In addition, on March 29, 2000 approximately 1.9 inches of LNAPL were measured in monitoring well TFS-MW-01 (BBL, 2001).

On April 27, 2000, approximately 3,200 gallons of jet propulsion fuel no. 5 (JP-5) were released at the TFS when a valve was left open for 3 hours. Upon discovery, LNAPL recovery commenced and soil excavation began on April 28, 2000. In some areas, excavation was limited by cement foundations. The entire footprint of the spill was excavated and stockpiled. Stockpiled soil was later removed from the site and disposed. During the excavation work, dark brown oil was visible near the water table (BBL, 2001).

Because these releases potentially affected the findings of the 1999 SAR, the Navy contracted BBL to conduct a supplemental site assessment to define the extent of petroleum hydrocarbon contamination. The Supplemental Site Assessment Report (SSAR) concluded that dissolved petroleum hydrocarbons above the GCTLs were present in groundwater in the vicinity of the new POL Laboratory building, the TFS, and AST A-935-R. Concentrations of petroleum hydrocarbons in sediments and surface water in the adjacent wetland also exceeded Sediment Quality Assessment Guidelines (SQAGs) and marine Surface Water Cleanup Target Levels (SWCTLs). LNAPL was also detected in several monitoring wells. The SSAR concluded that remedial measures should be initiated (BBL, 2001).

Subsequently, a treatability study was planned for the TFS site, to include aggressive fluid vapor recovery (AFVR). TtNUS was tasked with performing the treatability study, and in May 2003 collected groundwater samples to establish baseline conditions at the TFS. The baseline data were compared with the 1999 SAR and test data showed that volatile organic compound (VOC) and polynuclear aromatic hydrocarbon (PAH) concentrations had decreased in the area west of the TFS, but remained above the GCTLs. In addition, gauging data showed LNAPL thickness had decreased from about 1 foot in monitoring well TFS-

MW-04 (October 2000) to a sheen in May 2003. Due to the decrease in LNAPL thickness, TtNUS determined that an AFVR was no longer an appropriate remedy for monitoring well TFS-MW-04. Instead, TtNUS recommended that quarterly monitoring be implemented to evaluate the extent to which natural attenuation was occurring (TtNUS, 2003). Monitored natural attenuation (MNA) sampling was conducted from May 2003 to June 2009. The results of the MNA sampling indicated that MNA was occurring, but concentrations of benzene, naphthalene, and total petroleum hydrocarbons (TPH) remained above the GCTLs in monitoring well TFS-MW-04, located in the southwest portion of the TFS.

Between June 2009 and March 2010, TtNUS performed an extensive site investigation in the TFS area. The sites investigated included: (1) the perimeter of the POL Laboratory building where LNAPL was observed in the building footing excavations; (2) the northern area adjacent to the POL Laboratory associated with the reported location of a former AST; (3) the area south of the POL Laboratory; (4) the area south of the current TFS fueling and tanker parking area/containment area extending to the edge of the taxiway; and (5) the area west of the pumping area where fuel lines have been known to leak, including the current MNA area and west beyond the edge of the taxiway. Surface water samples were also collected from the wetlands southwest of the POL Laboratory building during the site investigation (Navy, 2011).

Conclusions of the 2009/2010 Site Investigation in the JP-5 spill area were to: (1) revaluate this area since a distinct source area was not detected; and (2) collect sediment and additional surface water samples from the wetlands west of the site, as contamination has migrated to the wetlands (Navy, 2011).

Between April 9 and May 21, 2012, CH2M HILL performed additional site assessment activities at the TFS. The work included monitoring well installation, groundwater sampling, surface water and sediment sampling, aquifer slug testing, and a tidal influence evaluation. Findings from the additional site investigation activities showed petroleum compounds persist in groundwater, surface water, and sediment. Petroleum impacts to groundwater exceeded the FDEP GCTLs in one well while the FDEP SWCTLs were exceeded in the surface water samples. No FDEP regulatory standards were exceeded in the sediment samples.

Recommendations from the 2012 additional site investigation included quarterly groundwater monitoring to further evaluate the petroleum-contaminant trends over time. In addition, CH2M HILL also recommended conducting an ecological risk assessment to evaluate the potential risk to ecological receptors in the wetland area to the west of the TFS. Upon completion of an ecological risk assessment, recommendations for no further action (NFA), additional monitoring, or corrective actions for the surface water and sediment would be determined (CH2M HILL, 2012b).

Between July 17 and 19, 2012, CH2M HILL conducted a quarterly groundwater monitoring event at the TFS (CH2M HILL, 2012c). The work included a comprehensive round of well gauging and collecting groundwater samples from nine monitoring wells. Findings from the first quarter monitoring event showed petroleum compounds persist in groundwater. Petroleum impacts to groundwater exceeded the FDEP GCTLs in two monitoring wells. Recommendations from the first quarterly sampling event included continuation of the quarterly groundwater monitoring to further evaluate the petroleum-contaminant trends over time. In addition, CH2M HILL also recommended collection of water quality samples to determine the potability of the aquifer and to evaluate reclassification of the groundwater at the site as poor quality.

Between October 23 and 26, 2012, CH2M HILL conducted a quarterly groundwater monitoring event at the TFS (CH2M HILL, 2013). The work included a comprehensive round of well gauging, as well as collection of groundwater samples from nine monitoring wells and collection of two of water quality samples to evaluate the potability and quality of the aquifer. Findings from the second quarter monitoring event showed groundwater beneath at the TFS site is saline and that salinity increases with depth. Therefore, groundwater beneath the site is not of freshwater water quality, and could not be used as a potable water source without desalination. Although petroleum compounds persist in groundwater, the impacts are significantly below the “poor quality” GCTLs. Recommendations from the second

quarterly sampling event included using “poor quality” GCTLs as the site groundwater protection criteria, consideration of NFA for groundwater, discontinuing groundwater monitoring at the TFS site, completion of an ecological risk assessment to evaluate the potential risk to ecological receptors in the wetland area to the west of the TFS, preparation of a site rehabilitation completion report (SRCR) for groundwater documenting the rationale and formal request for NFA, and plugging and abandoning of the existing groundwater monitoring wells.

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SECTION 2

Field Activities

This section describes the field activities conducted during the January 2013 quarterly groundwater monitoring event at the TFS. Activities followed the guidelines presented in the *Final Site Assessment Work Plan for the Truck Fill Stand* CH2M HILL, 2012a).

2.1 Field Activity Summary

The groundwater monitoring fieldwork was conducted between January 14 and 17, 2013 in accordance with the *Final Site Assessment Work Plan for the Truck Fill Stand* (CH2M HILL, 2012a). The work consisted of the following activities:

- **Site-wide Groundwater level Measurements** – Groundwater levels were measured and recorded from 16 side-wide monitoring wells.
- **Groundwater Sampling Event**—Groundwater samples were collected from the nine monitoring wells (TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-8D, TFS-MW-11, TFS-MW-12, TFS-MW-15, TFS-MW-16, and TFS-MW-17).
- **Investigation Derived Waste (IDW) Disposal**—Liquid IDW generated from the first and second quarter groundwater monitoring events was disposed.

A field activity summary is provided in Table 2-1. Figure 2-1 shows the locations of the monitoring wells.

TABLE 2-1
Field Activity Summary
Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

Date	Specific Activity	Comments
January 14, 2013	Collected site-wide water level measurements	Measured groundwater levels in 16 monitoring wells
January 15-17, 2013	Collected groundwater samples	Purged and sampled nine monitoring wells (TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-8D, TFS-MW-11, TFS-MW-12, TFS-MW-15, TFS-MW-16, and TFS-MW-17)

The following sections present a summary of the site-specific activities conducted at the truck fill stand.

2.2 Groundwater Level Measurements and Sampling

Static water levels were measured in 16 wells on January 14, 2013 (Table 2-2). Water levels were measured using an interface probe and measurements were made from a survey mark located on the top of the well casing.

Between January 15 and 17, 2013, groundwater samples were collected from monitoring wells TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-8D, TFS-MW-11, TFS-MW-12, TFS-MW-15, TFS-MW-16, and TFS-MW-17. Prior to sampling, the wells were purged using a peristaltic pump fitted with new disposable polyethylene tubing. The monitoring wells were sampled following the U.S. Environmental Protection Agency (EPA) guidance entitled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA, 1996).The intake tubing was placed approximately 2 feet below the top of the water column in each well. Pump discharge was monitored for pH, temperature, turbidity, specific conductance, oxidation-reduction potential (ORP), and dissolved oxygen (DO). Groundwater samples were collected after the water levels in the wells had stabilized, a minimum of one well volume per well had been purged, and field

parameters were stable. Well purging forms are provided in Appendix A. Groundwater samples were analyzed for Appendix IX VOCs (EPA Method 8260B), Appendix IX semivolatile organic compounds (SVOCs) (EPA Method 8270D/8270SIM), and total recoverable petroleum hydrocarbons (TRPH) (Florida Petroleum Residual Organic [FL PRO]).

North 0 25 50 100 Feet

LEGEND

- Monitoring Well Location
- Abandoned Monitoring Well Location

FIGURE 2-1
Monitoring Well Locations
NAS Key West
Boca Chica Key, Florida

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ES082112065335KNV F2-1_MWlocations_r1 2/20/13 lk

TABLE 2-2
Water Level Elevation Data
Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

Monitoring Well ID	Total Well Depth (ft BTOC)	Screen Interval (ft bgs)	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft msl)
					1/14/2013	1/14/2013
TFS-MW-01	11.99	NA	NA	4.44	2.90	1.54
TFS-MW-02	11.97	NA	NA	3.09	1.52	1.57
TFS-MW-03	11.50	NA	NA	4.17	2.90	1.27
TFS-MW-04	11.97	NA	NA	2.63	1.01	1.62
TFS-MW-05	11.95	NA	NA	4.55	2.84	1.71
TFS-MW-06	11.94	NA	NA	4.21	2.48	1.73
TFS-MW-8D	35.00	NA	NA	4.12	2.1	2.02
TFS-MW-09	12.00	NA	NA	3.05	1.03	2.02
TFS-MW-10	NA	NA	NA	2.73	0.94	1.79
TFS-MW-11	11.31	NA	NA	2.62	0.97	1.65
TFS-MW-12	11.28	NA	NA	3.80	2.13	1.67
TFS-MW-13	11.00	NA	NA	2.58	0.65	1.93
TFS-MW-14	11.00	NA	NA	2.49	0.55	1.94
TFS-MW-15	11.00	1.00-11.00	2.4	2.28	1.01	1.27
TFS-MW-16	12.15	2.15-12.15	3.5	3.20	1.93	1.27
TFS-MW-17	11.75	1.75-11.75	2.5	2.26	1.00	1.26

Notes:
ft bgs = feet below ground surface
ft BTOC = feet below top of casing
ft msl = feet mean sea level
NA = not available
Construction details and survey information for wells TFS-MW-01 through TFS-MW-14 taken from the *Site Assessment for Truck Fill Stand* Report (TtNUS, 2011).

2.3 Investigation-Derived Waste

IDW (decontamination water and well purge water) was containerized in a labeled 55-gallon drum and stored at the TFS.

SECTION 3

Investigation Findings

This section presents the findings from the quarterly groundwater monitoring event.

3.1 Hydrogeology

3.1.1 Groundwater

Groundwater was observed at depths ranging from 0.55 foot bgs at well TFS-MW-14 to 2.90 feet bgs at wells TFS-MW-01 and TFS-MW-03. Water table elevations beneath the site ranged from 1.26 to 2.02 feet msl in January 2013. The groundwater elevations measured on January 14, 2013 were used to develop a potentiometric surface map (Figure 3-1) of the water-table aquifer. The potentiometric surface for January 2013 indicates that the direction of groundwater flow across the site is toward the west to southwest. The average horizontal gradient of across the site in January 2013 was estimated to be 0.010 foot per foot (ft/ft).

Historical and current vertical gradient calculations are summarized in Table 3-1. Vertical gradients were calculated using well cluster TFS-MW-01/TFS-MW-8D. During January 2013, an upward hydraulic gradient of 0.021 ft/ft was measured.

TABLE 3-1
Historical Calculated Vertical Hydraulic Gradients
Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

Date	Well Cluster	Vertical Gradient (ft/ft)	Gradient Direction
4/20/2012	TFS-MW-01/TFS-MW-8D	0.006	Up
5/21/2012	TFS-MW-01/TFS-MW-8D	-0.017	Down
7/17/2012	TFS-MW-01/TFS-MW-8D	-0.018	Down
10/23/2012	TFS-MW-01/TFS-MW-8D	-0.006	Down
1/14/2013	TFS-MW-01/TFS-MW-8D	0.021	Up

The rate of groundwater moving beneath the site was estimated by the average seepage velocity. The following equation was used to calculate the average seepage velocity:

$$V_x = \frac{Ki}{n_e}$$

where:

V_x = average seepage velocity in feet per day (ft/day)

K = hydraulic conductivity (geometric mean hydraulic conductivity of 8.99 ft/day)

i = hydraulic gradient (average horizontal gradient of across the site in January 2013 of 0.010 ft/ft)

n_e = effective porosity (assumed to be 0.15 for weathered limestone)

The horizontal seepage velocity (V) across the site is estimated to be 0.60 ft/day or 219 feet per year (ft/year) (V=[8.99 ft/day][0.010 ft/ft]/0.15).

North

0 25 50 100
Feet

LEGEND

- Monitoring Well Location
- Groundwater Flow Direction

NOTES

1. Groundwater elevations were measured on January 14, 2013
2. All elevations in feet
3. Deep well TFS-MW-8D was not used to create this potentiometric surface map
4. Contour interval = 0.02 ft

FIGURE 3-1
Potentiometric Surface Map (January 2013)
NAS Key West
Boca Chica Key, Florida

CH2MHILL.

ES092412162320KNV F3-1_PotMap_Jan2013 2/20/13 lk

3.2 Field Parameters

Water quality parameters (temperature, specific conductivity, ORP, DO, and pH) were measured during well purging. The measured water quality parameters convey the groundwater conditions and provide information necessary to evaluate natural attenuation. Table 3-2 presents the water quality parameter results. Results are discussed below as they relate to the suitability of an aquifer as an environment for hydrocarbon degradation to occur.

3.2.1 Temperature

Groundwater temperature directly affects the solubility of oxygen and other geochemical species. The solubility of DO is temperature dependent, being more soluble in cold water than in warm water. Groundwater temperature also affects the metabolic activity of bacteria. The optimum temperature range for microbial activity is between 8 to 30 degrees Celsius (°C) and rates of hydrocarbon biodegradation roughly double for every 10°C increase in temperature over the temperature range between 5 and 25°C. Groundwater temperatures below 5°C tend to inhibit biodegradation and slow rates of biodegradation are generally observed.

During the January 2013 groundwater monitoring event, temperatures varied from approximately 25.2 to 29.0°C and averaged 26.8°C in the monitoring wells. These groundwater temperatures are within the upper range for optimal microbial activity and are extremely favorable for biodegradation of hydrocarbons to occur.

3.2.2 Specific Conductance

Specific conductance measurements indicate whether groundwater extracted from wells is representative of the same water-bearing zone at a site. Specific conductance measurements ranged from 0.579 to 19.4 milliSiemens per centimeter (mS/cm). The specific conductance measurements from the January 2013 monitoring event were similar with the exception of well TFS-MW-8D. The significant increase in specific conductance in the deep well TFS-MW-8D is likely due to higher salinity due to salt water intrusion.

3.2.3 Dissolved Oxygen

DO is a measure of oxygen dissolved in a solution. DO is often depleted in groundwater contaminated with hydrocarbons as a result of in situ biodegradation of hydrocarbons. As oxygen is consumed, carbon dioxide (CO_2) is produced in the biodegradation process. DO concentrations less than 0.5 milligrams per liter (mg/L) typically are indicative of an environment supportive of anaerobic reactions. DO concentrations greater than 2 mg/L reflect well aerated groundwater.

During the January 2013 monitoring event, DO ranged from 0.44 mg/L (well TFS-MW-15) to 5.52 mg/L (well TFS-MW-5) and averaged 1.36 mg/L across the site. Overall, the DO concentrations are indicative of anaerobic conditions at the site.

3.2.4 Oxidation-Reduction Potential

ORP is a measure of electron activity and an indicator of the relative tendency of a solution to accept or transfer electrons. As electron acceptors are utilized, the redox potential of the groundwater decreases. Negative or relatively low redox values can be used to identify areas under anaerobic conditions. The ORP in groundwater samples was negative in each of the nine monitoring wells sampled during January 2013, indicating a reducing groundwater environment. ORP ranged from -356.0 millivolts (mV) at well TFS-MW-8D to -180.0 mV at well TFS-MW-01. The range in ORP values suggests that the aquifer is a reducing environment.

3.2.5 pH

The pH of groundwater has an effect on the presence and activity of microbial populations in groundwater and the optimum pH range for microbial activity is between 6 and 8 standard units. pH ranged from 6.64 to 7.57 units during the January 2013 monitoring event, indicating the pH of groundwater at the site is within the optimal range for microbial activity to occur.

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TABLE 3-2
Field Parameters
Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

Location		TFS-MW-01			TFS-MW-03	TFS-MW-04			TFS-MW-05			TFS-MW-06	TFS-MW-8D		
Field Parameter	**Date**	**7/17/2012**	**10/25/2012**	**1/15/2013**	**4/19/2012**	**7/19/2012**	**10/26/2012**	**1/15/2013**	**7/18/2012**	**10/25/2012**	**1/15/2013**	**4/19/2012**	**7/17/2012**	**10/26/2012**	**1/15/2013**
Temperature (°C)		29.33	28.68	25.94	29.05	27.96	28.36	27.54	33.15	30.49	29.00	26.45	27.32	26.86	27.02
Specific Conductance (mS/cm)		0.862	0.914	0.849	0.868	1.260	1.320	1.400	0.362	0.535	0.579	0.827	23.600	9.160	19.400
Dissolved Oxygen (mg/L)		1.11	1.03	1.16	0.00	0.57	1.85	0.56	1.44	1.03	5.52	0.00	0.66	1.86	0.82
Oxidation-Reduction Potential (mV)		-183.0	-259.0	-180.0	109.0	-173.0	-267.0	-263.0	-111.0	-205.0	-287.0	-260.0	-355.0	-364.0	-356.0
pH		6.64	6.81	6.90	7.19	6.59	6.76	7.04	7.38	7.41	7.57	6.80	6.99	7.04	7.23
Turbidity (NTU)		0.0	15.0	1.8	16.0	0.0	20.6	2.6	0.0	33.3	3.2	9.1	0.0	4.8	0.0
Ferrous Iron (mg/L)		NM	NM	NM	0.0	NM	NM	NM	NM	NM	NM	0.0	NM	NM	NM

Location		TFS-MW-11			TFS-MW-12			TFS-MW-15			
Field Parameter	**Date**	**7/18/2012**	**10/24/2012**	**1/16/2013**	**7/19/2012**	**10/25/2012**	**1/16/2013**	**4/19/2012**	**7/18/2012**	**10/24/2012**	**1/16/2013**
Temperature (°C)		32.22	28.70	25.30	29.82	29.39	27.59	27.66	27.67	28.03	25.17
Specific Conductance (mS/cm)		0.324	0.718	1.580	0.536	0.681	0.869	2.110	1.470	1.820	2.060
Dissolved Oxygen (mg/L)		3.52	1.05	1.09	1.52	1.02	0.72	0.00	0.59	1.01	0.44
Oxidation-Reduction Potential (mV)		-230.0	-285.0	-336.0	-108.0	-248.0	-287.0	-350.0	-296.0	-327.0	-345.0
pH		7.47	7.20	7.04	7.27	7.36	7.16	6.44	6.62	6.61	6.64
Turbidity (NTU)		0.0	14.5	0.0	124.0	70.8	14.7	45.1	17.1	159.0	17.4
Ferrous Iron (mg/L)		NM	NM	NM	NM	NM	NM	0.0	NM	NM	NM

Location		TFS-MW-16				TFS-MW-17			
Field Parameter	**Date**	**4/19/2012**	**7/19/2012**	**10/26/2012**	**1/16/2013**	**4/19/2012**	**7/18/2012**	**10/24/2012**	**1/17/2013**
Temperature (°C)		29.00	28.62	28.92	27.34	28.14	28.16	28.55	26.38
Specific Conductance (mS/cm)		3.390	1.520	2.110	2.650	3.500	1.330	2.500	2.960
Dissolved Oxygen (mg/L)		5.09	0.46	1.82	0.52	0.00	0.67	0.95	1.41
Oxidation-Reduction Potential (mV)		-187.0	-306.0	-343.0	-336.0	-364.0	-334.0	-345.0	-340.0
pH		7.03	7.53	7.53	7.47	6.77	7.20	7.13	7.11
Turbidity (NTU)		67.9	0.0	23.3	2.1	18.9	0.0	13.5	0.0
Ferrous Iron (mg/L)		0.0	NM	NM	NM	0.0	NM	NM	NM

Notes:
°C - degrees Celsius
mS/cm - millisiemens per centimeter
mg/L - milligrams per liter
mV - millivolts
NM - not measured
NTU - nephelometric turbidity unit

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3.3 Sample Results

The laboratory results were reviewed and validated to assess the accuracy, precision, and completeness based upon procedures described in guidance documents such as the EPA's *National Functional Guidelines for Organic Data Review* (EPA, 2008). Both lab quality assurance/quality control (QA/QC) summary forms and data reports were reviewed. Based on the validation process, the analytical results are usable as qualified in the decision-making process. CH2M HILL's data validation reports and laboratory analytical reports for groundwater samples are provided in Appendix B on CD.

Following the data validation process, the "poor quality" GCTLs, as listed in F.A.C. Chapter 62-777 were used to compare groundwater analytical results. The "poor quality" GCTLs were selected as the appropriate comparison criteria based on the results of the water quality evaluation in October 2012, which determined the groundwater beneath the TFS is saline and not suitable for potable use without desalination (CH2M HILL, 2013). Sample results are discussed in the text that follows. In addition due to the proximity of the TFS to wetlands located west of the site, groundwater data were also compared to marine SWCTLs.

3.3.1 Groundwater Evaluation

Groundwater samples were collected from monitoring wellsTFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-8D, TFS-MW-11, TFS-MW-12, TFS-MW-15, TFS-MW-16, and TFS-MW-17 and analyzed for Appendix IX VOCs, Appendix IX SVOCs, and TRPH. Figure 3-2 presents the compounds detected in the groundwater samples, and Table 3-3 presents the analytical results.

3.3.1.1 VOCs

Benzene was detected in monitoring wells TFS-MW-04 and TFS-MW-15 and xylenes were also detected in monitoring well TFS-MW-15. All concentrations were below their respective GCTLs and marine SWCTLs. No VOCs were detected in the remaining seven monitoring wells.

3.3.1.2 SVOCs

Sixteen SVOCs were detected in groundwater. SVOCs were detected in monitoring wells TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, TFS-MW-15, TFS-MW-16, and TFS-MW-17. However two wells, TFS-MW-04 and TFS-MW-11, contained SVOCs that exceeded their respective GCTLs based on poor quality criteria. Dibenzo(a,h)anthracene was detected at concentrations of 0.76 µg/L and 0.086 µg/L in wells TFS-MW-04 and TFS-MW-11, respectively, which exceeded its "poor quality" GCTL of 0.05 µg/L. Indeno(1,2,3-cd)pyrene exceeded its "poor quality" GCTL of 0.5 µg/L in well TFS-MW-04 at a concentration of 0.64 µg/L.

As compared to their respective marine SWCTLs, one well, TFS-MW-15, contained concentrations of anthracene, fluoranthene, and pyrene at concentrations that exceeded their respective marine SWCTLs. For the SVOC compounds acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,i,h)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h,)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene, no individual marine SWCTLs exist. Therefore, in accordance with F.A.C. Chapter 62-302, the marine SWCTL criterion of 0.031 µg/L for PAHs applies to the total concentration of these 10 SVOCs. As a result, the sum of these PAH compounds exceeded the marine SWCTL criterion of 0.031 µg/L at locations TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, and TFS-MW-15. Total PAH concentrations at these locations ranged 0.038J µg/L to 3.05J µg/L.

SVOCs were not detected in wells TFS-MW-8D and TFS-MW-12.

3.3.1.3 TRPH

TRPH was detected each monitoring well sampled in January 2013. TRPH concentrations ranged from 420J µg/L (well TFS-MW-16) to 23,500 µg/L (well TFS-MW-15). The GCTL of 50,000 µg/L, based on poor quality criterion, was not exceeded; however, the marine SWCTL of 5,000 µg/L was exceeded in wells TFS-MW-04 and TFS-MW-15 at concentrations of 13,200J µg/L and 23,500 µg/L, respectively.

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TABLE 3-3
Groundwater Analytical Data Summary
Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

		Groundwater Sample Data										GCTL[1]	GCTL (Low Yield/ Poor Quality)[1]	Marine Surface Water Cleanup Target Levels [2]
	Location	TFS-MW-01	TFS-MW-04	TFS-MW-05	TFS-MW-8D	TFS-MW-11	TFS-MW-12	TFS-MW-15		TFS-MW-16	TFS-MW-17			
	Sample ID	Q3-TFS-MW-01	Q3-TFS-MW-04	Q3-TFS-MW-05	Q3-TFS-MW-8D	Q3-TFS-MW-11	Q3-TFS-MW-12	Q3-TFS-MW-15	Q3-TFS-MW-15-DUP	Q3-TFS-MW-16	Q3-TFS-MW-17			
	Sample Date	1/15/2013	1/15/2013	1/15/2013	1/15/2013	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/17/2013			
Analyte	**Units**													
Appendix IX Volatile Organic Compounds (SW8260B)														
1,1,1,2-Tetrachloroethane	µg/L	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	1.3	13	NA
1,1,1-Trichloroethane	µg/L	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	200	2000	270
1,1,2,2-Tetrachloroethane	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.2	2	10.8
1,1,2-Trichloroethane	µg/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	5	50	16
1,1-Dichloroethane	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	70	700	NA
1,1-Dichloroethene	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	7	70	3.2
1,2,3-Trichloropropane	µg/L	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.02	0.2	0.2
1,2-Dibromo-3-chloropropane	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.2	2	NA
1,2-Dibromoethane	µg/L	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.02	0.2	13
1,2-Dichloroethane	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	3	30	37
1,2-Dichloropropane	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	5	50	14
1,4-Dichloro-2-butene	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	NA	NA	NA
1,4-Dioxane	µg/L	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	3.2	32	120
2-Butanone	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4200	42000	120000
2-Hexanone	µg/L	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	280	2800	NA
4-Methyl-2-pentanone	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	560	5600	23000
Acetone	µg/L	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	6300	63000	1700
Acetonitrile	µg/L	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	42	420	20000
Acrolein	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	3.5	35	0.4
Acrylonitrile	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	0.06	0.6	0.2
Allyl chloride	µg/L	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	35	350	NA
Benzene	µg/L	0.34 U	**0.52**	0.34 U	0.34 U	0.34 U	0.34 U	**0.26 J**	**0.27 J**	0.34 U	0.34 U	1	10	71.28
Bromodichloromethane	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.6	6	22
Bromoform	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	4.4	44	360
Bromomethane	µg/L	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	9.8	98	35
Carbon disulfide	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	700	7000	110
Carbon tetrachloride	µg/L	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	3	30	4.42
Chlorobenzene	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	100	1000	17
Chloroethane	µg/L	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	12	120	NA
Chloroform	µg/L	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	70	700	470.8
Chloromethane	µg/L	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	2.7	27	470.8
Chloroprene	µg/L	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	140	1400	NA
cis-1,3-Dichloropropene	µg/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	NA	NA	NA
Dibromochloromethane	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.4	4	34
Dibromomethane	µg/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	70	700	79
Dichlorodifluoromethane	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1400	14000	NA
Ethyl methacrylate	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	630	6300	NA
Ethylbenzene	µg/L	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	30	300	610
Isobutyl alcohol	µg/L	40 UR	40 UR	40 UR	40 UR	40 UR	40 UR	40 UR	40 UR	40 UR	40 UR	2100	21000	47000
Methacrylonitrile	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.7	7	NA
Methyl iodide	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	NA	NA	NA
Methyl methacrylate	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	25	250	6500
Methylene chloride	µg/L	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	5	50	1580
Propionitrile	µg/L	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	20 UR	NA	NA	NA
Styrene	µg/L	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	100	1000	460
Tetrachloroethene	µg/L	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	3	30	8.85
Toluene	µg/L	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	40	400	480
trans-1,2-Dichloroethene	µg/L	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	100	1000	11000
trans-1,3-Dichloropropene	µg/L	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	NA	NA	NA
Trichloroethene	µg/L	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	3	30	80.7
Trichlorofluoromethane	µg/L	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	2100	21000	NA
Vinyl acetate	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	88	880	700
Vinyl chloride	µg/L	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	1	10	2.4
Xylene (total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	**0.78 J**	**0.72 J**	1 U	1 U	20	200	370
Appendix IX Semivolatile Organic Compounds (SW8270D)														
0,0,0-Triethylphosphorothioate	µg/L	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 UJ	5.8 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	µg/L	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 UJ	4.4 U	2.1	21	1.6
1,2,4-Trichlorobenzene	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	70	700	23
1,2-Dichlorobenzene	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	600	6000	99
1,3,5-Trinitrobenzene	µg/L	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	210	2100	19
1,3-Dichlorobenzene	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	210	2100	85
1,3-Dinitrobenzene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	0.7	7	72
1,4-Dichlorobenzene	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	75	750	3
1,4-Naphthoquinone	µg/L	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	6.2 UJ	NA	NA	NA
1-Naphthylamine	µg/L	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 UJ	3.6 UJ	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	µg/L	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 UJ	6.6 U	NA	NA	NA
2,3,4,6-Tetrachlorophenol	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	210	2100	4.5
2,4,5-Trichlorophenol	µg/L	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 UJ	6.8 U	1	10	23
2,4,6-Trichlorophenol	µg/L	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 UJ	1.7 U	3.2	32	6.5
2,4-Dichlorophenol	µg/L	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 UJ	6.2 U	0.3	3	13
2,4-Dimethylphenol	µg/L	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 UJ	4.6 U	140	1400	160
2,4-Dinitrophenol	µg/L	11.2 U	11.2 U	11.2 U	11.2 U	11.2 U	11.2 U	11.2 U	11.2 U	11.2 UJ	11.2 U	14	140	3
2,4-Dinitrotoluene	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	0.05	0.5	9.1
2,6-Dichlorophenol	µg/L	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 UJ	7 U	0.2	2	73
2,6-Dinitrotoluene	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	0.05	0.5	0.7
2-Acetylaminofluorene	µg/L	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 UJ	2.2 U	NA	NA	NA
2-Chloronaphthalene	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	560	5600	1600
2-Chlorophenol	µg/L	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 UJ	5.8 U	35	350	130
2-Methylphenol	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	35	350	250
2-Naphthylamine	µg/L	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	0.0003	0.003	NA
2-Nitroaniline	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	21	210	NA
2-Nitrophenol	µg/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 UJ	1.5 U	NA	NA	NA
2-Picoline	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	0.08	0.8	0.03
3-Methylcholanthrene	µg/L	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 UJ	4.4 U	NA	NA	NA
3-Nitroaniline	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	1.7	17	NA
4,6-Dinitro-2-methylphenol	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	NA	NA	NA
4-Aminobiphenyl	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ	4 UJ	NA	NA	NA
4-Bromophenyl-phenylether	µg/L	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 UJ	4.6 U	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	63	630	100
4-Chloroaniline	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	28	280	2.5
4-Chlorophenyl-phenylether	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	NA	NA	NA
4-Methylphenol	µg/L	12.3 U	12.3 U	12.3 U	12.3 U	12.3 U	12.3 U	12.3 U	12.3 U	12.3 UJ	12.3 U	3.5	35	70
4-Nitroaniline	µg/L	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 UJ	3 U	1.7	17	1200
4-Nitrophenol	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	56	560	55
4-Nitroquinoline-1-oxide	µg/L	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	7.4 UR	NA	NA	NA
5-Nitro-o-toluidine	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	1.1	11	NA
7,12-Dimethylbenz(a)anthracene	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 UJ	1.9 U	NA	NA	NA
a,a-Dimethylphenethylamine	µg/L	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	32.2 UR	NA	NA	NA
Acetophenone	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	700	7000	7800
Aniline	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	6.1	61	4
Aramite	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	1.4	14	3
Benzyl alcohol	µg/L	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 UJ	6.2 U	2100	21000	500
Bis(2-chloroethoxy)methane	µg/L	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 UJ	7 U	NA	NA	NA
Bis(2-chloroethyl)ether	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	0.03	0.3	0.5
Bis(2-ethylhexyl)phthalate	µg/L	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 UJ	8.8 U	6	60	2.2
Butylbenzylphthalate	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	140	1400	26
Chlorobenzilate	µg/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 UJ	1.6 U	0.1	1	0.02
Diallate (Avadex)	µg/L	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 UJ	1.7 U	0.6	6	NA
Dibenzofuran	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	28	280	67
Diethylphthalate	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	5600	56000	380
Dimethylphthalate	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	70000	700000	1400
Di-n-butylphthalate	µg/L	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 UJ	1.7 U	700	7000	NA

TABLE 3-3

Groundwater Analytical Data Summary

Truck Fill Stand, NAS Key West, Boca Chica Key, Florida

		Groundwater Sample Data										GCTL[1]	GCTL (Low Yield/ Poor Quality)[1]	Marine Surface Water Cleanup Target Levels [2]
	Location	TFS-MW-01	TFS-MW-04	TFS-MW-05	TFS-MW-8D	TFS-MW-11	TFS-MW-12	TFS-MW-15		TFS-MW-16	TFS-MW-17			
	Sample ID	Q3-TFS-MW-01	Q3-TFS-MW-04	Q3-TFS-MW-05	Q3-TFS-MW-8D	Q3-TFS-MW-11	Q3-TFS-MW-12	Q3-TFS-MW-15	Q3-TFS-MW-15-DUP	Q3-TFS-MW-16	Q3-TFS-MW-17			
	Sample Date	1/15/2013	1/15/2013	1/15/2013	1/15/2013	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/16/2013	1/17/2013			
Analyte	**Units**													
Di-n-octylphthalate	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ	4 U	140	1400	NA
Dinoseb	µg/L	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 UJ	8 U	7	70	5.9
Ethyl methanesulfonate	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	NA	NA	NA
Hexachlorobenzene	µg/L	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 UJ	0.82 U	1	10	0.0003
Hexachlorobutadiene	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	0.4	4	49.7
Hexachlorocyclopentadiene	µg/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 UJ	1.6 U	50	500	3
Hexachloroethane	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	2.5	25	3.3
Hexachloropropene	µg/L	4 UR	4 UR	4 UR	4 UR	4 UR	4 UR	4 UR	4 UR	4 UR	4 UR	NA	NA	NA
Isodrin	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 UJ	NA	NA	NA
Isophorone	µg/L	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 UJ	7.6 U	37	370	650
Isosafrole	µg/L	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 UJ	5.2 U	NA	NA	NA
Kepone	µg/L	32.2 U	32.2 U	32.2 U	32.2 U	32.2 U	32.2 U	32.2 U	32.2 U	32.2 UJ	32.2 U	0.004	0.04	NA
Methapyriline	µg/L	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	4.4 UJ	NA	NA	NA
Methylmethanesulfonate	µg/L	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 UJ	3.8 U	NA	NA	NA
Nitrobenzene	µg/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 U	3.5	35	90
N-Nitrosodibutylamine	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	0.006	0.06	0.04
N-Nitrosodiethylamine	µg/L	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 UJ	6.2 U	0.0002	0.002	0.008
N-Nitrosodimethylamine	µg/L	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 UJ	4.4 U	0.0007	0.007	3
N-Nitroso-di-n-propylamine	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	0.005	0.05	0.5
N-Nitrosodiphenylamine	µg/L	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 UJ	6.8 U	7.1	71	3
N-Nitrosomethylethylamine	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	0.002	0.02	0.06
N-Nitrosomorpholine	µg/L	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 UJ	6 U	NA	NA	NA
N-Nitrosopiperidine	µg/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U	5.6 UJ	5.6 U	NA	NA	NA
N-Nitrosopyrrolidine	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	0.02	0.2	NA
o-Toluidine	µg/L	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 UJ	5.4 U	0.1	1	26
p-Dimethylaminoazobenzene	µg/L	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 UJ	1.2 UJ	NA	NA	NA
Pentachlorobenzene	µg/L	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 UJ	4.4 U	5.6	56	1.7
Pentachloroethane	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	NA	NA	NA
Pentachloronitrobenzene(PCNB)	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ	4 U	0.1	1	0.02
Pentachlorophenol	µg/L	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 UJ	2.8 U	1	10	7.9
Phenacetin	µg/L	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 UJ	1.8 U	NA	NA	NA
Phenol	µg/L	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 UJ	3.4 U	10	100	6.5
p-Phenylenediamine	µg/L	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 UJ	4 U	1300	13000	NA
Pronamide	µg/L	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 U	1.6 UJ	1.6 U	53	530	NA
Pyridine	µg/L	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 UJ	4.2 U	7	70	1300
Safrole	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	NA	NA	NA
Appendix IX Polycyclic Aromatic Hydrocarbons (SW8270D-SIM)														
1-Methylnaphthalene	µg/L	**0.11**	**54.4**	**0.49**	0.04 U	0.04 U	0.04 U	**9.7**	**8.8**	0.04 U	**0.021 J**	28	280	95
2-Methylnaphthalene	µg/L	0.04 U	**14.5**	0.04 U	0.04 U	0.04 U	0.04 U	**2.6**	**2.2**	**0.032 J**	0.04 U	28	280	30
Acenaphthene	µg/L	**0.15**	**0.43 J**	**0.22**	0.04 U	**0.37**	0.04 U	**2.1**	**2.2**	0.04 U	**1.3**	20	200	3
Acenaphthylene	µg/L	**0.038 J**	**0.29 J**	0.04 U	0.04 U	0.04 U	0.04 U	**0.1 J**	**0.13 J**	0.04 U	0.04 U	210	2100	*
Anthracene	µg/L	0.04 U	0.4 U	**0.031 J**	0.04 U	**0.038 J**	0.04 U	**0.54**	**0.6**	0.04 U	0.04 U	2100	21000	0.3
Benzo(a)anthracene	µg/L	0.04 U	0.4 U	0.04 U	0.04 U	0.04 U	0.04 U	**0.14 J**	**0.18 J**	0.04 U	0.04 U	0.05	0.5	*
Benzo(a)pyrene	µg/L	0.04 U	**0.48 J**	**0.052**	0.04 U	**0.052**	0.04 U	0.04 U	**0.055**	0.04 U	0.04 U	0.2	2	*
Benzo(b)fluoranthene	µg/L	0.04 U	0.4 U	**0.034 J**	0.04 U	**0.039 J**	0.04 U	0.04 U	**0.043 J**	0.04 U	0.04 U	0.05	0.5	*
Benzo(g,h,i)perylene	µg/L	0.04 U	0.4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	210	2100	*
Benzo(k)fluoranthene	µg/L	0.04 U	0.4 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.5	5	*
Chrysene	µg/L	0.04 U	0.4 U	0.04 U	0.04 U	0.04 U	0.04 U	**0.11 J**	**0.14 J**	0.04 U	0.04 U	4.8	48	*
Dibenzo(a,h)anthracene	µg/L	0.04 U	**0.76**	0.04 U	0.04 U	**0.086**	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.005	0.05	*
Fluoranthene	µg/L	**0.053**	0.4 U	**0.066**	0.04 U	**0.028 J**	0.04 U	**1.3**	**1.5**	0.04 U	**0.038 J**	280	2800	0.3
Fluorene	µg/L	**0.14**	**0.55**	**0.054**	0.04 U	0.04 U	0.04 U	**2.8**	**3**	0.04 U	0.04 U	280	2800	30
Indeno(1,2,3-cd)pyrene	µg/L	0.04 U	**0.64**	**0.068**	0.04 U	**0.073**	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.05	0.5	*
Naphthalene	µg/L	0.04 U	**8.8**	**0.26**	0.04 U	0.04 U	0.04 U	**7.4**	**6.9**	0.04 U	0.04 U	14	140	26
Phenanthrene	µg/L	0.04 U	0.4 U	**0.035 J**	0.04 U	0.04 U	0.04 U	**2.7**	**3**	0.04 U	0.04 U	210	2100	*
Pyrene	µg/L	**0.032 J**	0.4 U	**0.053**	0.04 U	0.04 U	0.04 U	**0.95**	**1.1**	0.04 U	0.04 U	210	2100	0.3
Total PAH Concentration*	µg/L	**0.038 J**	**2.17 J**	**0.189 J**	ND	**0.25 J**	ND	**3.05 J**	**3.548 J**	ND	ND	210	2100	0.031
Total Recoverable Petroleum Hydrocarbons (FL-PRO)														
TRPH	µg/L	**2600 J**	**13200 J**	**920**	**580**	**2400**	**560**	**23500**	**22700**	**420 J**	**1900 J**	5000	50000	5000

Notes:

NA Not applicable

ND Not detected

J The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit

UJ The analyte was below the reported sample quantitation limit. However, the reported value is approximate.

UR The reported value of analyte was rejected due to failed laboratory QC. See data validation report in Appendix B.

µg/L Micrograms per Liter

Bold indicates the analyte was detected

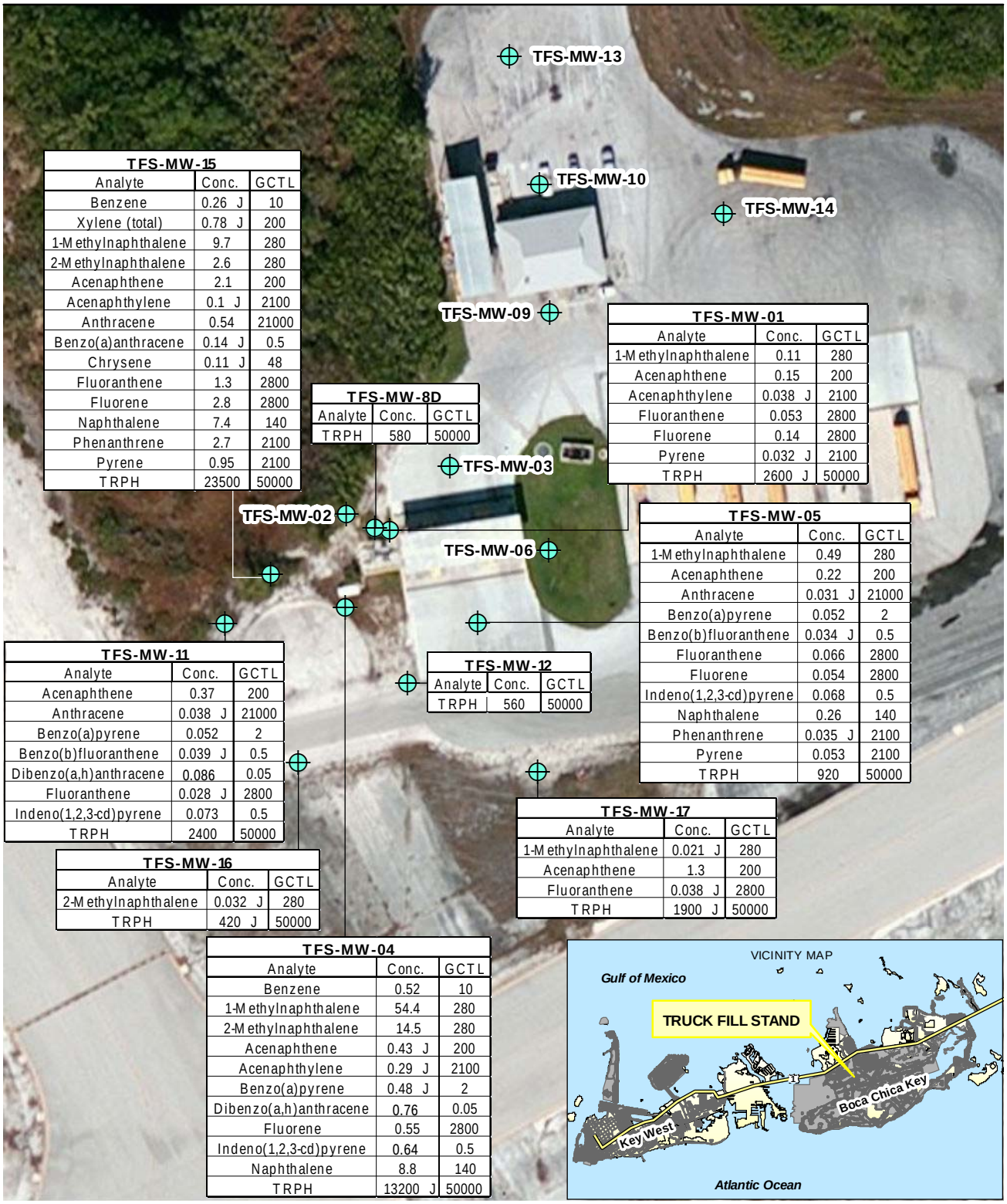
Bold and yellow shaded values indicate the analyte exceeded the GCTL for poor quality groundwater.

Bold and orange shaded values indicate the analyte exceeded the CTL for surface water.

[1] GCTL's are from Table 1 of the *Final Technical Report: Development of Cleanup Target Levels (CTLs) For Chapter 63-777, F.A.C., Center for Environmental & Human Toxicology. February 2005.*

[2] Target Levels are the Marine Surface Water Criteria, from Table 1 of the Final Technical Report: Development of Cleanup Target Levels (CTLs)

* There are no surface water standards for these individual polycyclic aromatic hydrocarbons. Per Chapter 62-302, F.A.C., the surface water criterion for Polycyclic Aromatic Hydrocarbons (PAHs) shall apply to the total concentration of Acenaphthylene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,i,h)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h,)anthracene, Indeno(1,2,3-cd)pyrene, and Phenanthrene.



TFS-MW-15

Analyte	Conc.	GCTL
Benzene	0.26 J	10
Xylene (total)	0.78 J	200
1-Methylnaphthalene	9.7	280
2-Methylnaphthalene	2.6	280
Acenaphthene	2.1	200
Acenaphthylene	0.1 J	2100
Anthracene	0.54	21000
Benzo(a)anthracene	0.14 J	0.5
Chrysene	0.11 J	48
Fluoranthene	1.3	2800
Fluorene	2.8	2800
Naphthalene	7.4	140
Phenanthrene	2.7	2100
Pyrene	0.95	2100
TRPH	23500	50000

TFS-MW-01

Analyte	Conc.	GCTL
1-Methylnaphthalene	0.11	280
Acenaphthene	0.15	200
Acenaphthylene	0.038 J	2100
Fluoranthene	0.053	2800
Fluorene	0.14	2800
Pyrene	0.032 J	2100
TRPH	2600 J	50000

TFS-MW-8D

Analyte	Conc.	GCTL
TRPH	580	50000

TFS-MW-05

Analyte	Conc.	GCTL
1-Methylnaphthalene	0.49	280
Acenaphthene	0.22	200
Anthracene	0.031 J	21000
Benzo(a)pyrene	0.052	2
Benzo(b)fluoranthene	0.034 J	0.5
Fluoranthene	0.066	2800
Fluorene	0.054	2800
Indeno(1,2,3-cd)pyrene	0.068	0.5
Naphthalene	0.26	140
Phenanthrene	0.035 J	2100
Pyrene	0.053	2100
TRPH	920	50000

TFS-MW-11

Analyte	Conc.	GCTL
Acenaphthene	0.37	200
Anthracene	0.038 J	21000
Benzo(a)pyrene	0.052	2
Benzo(b)fluoranthene	0.039 J	0.5
Dibenzo(a,h)anthracene	0.086	0.05
Fluoranthene	0.028 J	2800
Indeno(1,2,3-cd)pyrene	0.073	0.5
TRPH	2400	50000

TFS-MW-12

Analyte	Conc.	GCTL
TRPH	560	50000

TFS-MW-17

Analyte	Conc.	GCTL
1-Methylnaphthalene	0.021 J	280
Acenaphthene	1.3	200
Fluoranthene	0.038 J	2800
TRPH	1900 J	50000

TFS-MW-16

Analyte	Conc.	GCTL
2-Methylnaphthalene	0.032 J	280
TRPH	420 J	50000

TFS-MW-04

Analyte	Conc.	GCTL
Benzene	0.52	10
1-Methylnaphthalene	54.4	280
2-Methylnaphthalene	14.5	280
Acenaphthene	0.43 J	200
Acenaphthylene	0.29 J	2100
Benzo(a)pyrene	0.48 J	2
Dibenzo(a,h)anthracene	0.76	0.05
Fluorene	0.55	2800
Indeno(1,2,3-cd)pyrene	0.64	0.5
Naphthalene	8.8	140
TRPH	13200 J	50000

LEGEND

- Monitoring Well Location
- GCTL Groundwater Cleanup Target Level (Poor Quality)
- J Estimated
- TRPH Total Recoverable Petroleum Hydrocarbons
- Conc. Concentration

NOTES

1. Concentrations reported in micrograms per liter (µg/L)
2. Sample date: January 15-17, 2013
3. Concentrations in **bold** indicate a GCTL exceedance

North

0 25 50 100
Feet

FIGURE 3-2
Compounds Detected in Groundwater
NAS Key West
Boca Chica Key, Florida

CH2MHILL

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SECTION 4

Conclusions and Recommendations

The conclusions and recommendations for the site, based on the January 2013 groundwater monitoring event, are presented below.

4.1 Conclusions

4.1.1 Hydrogeology

- LNAPL was not detected in groundwater.
- During January 2013, groundwater was observed at depths ranging from 0.55 foot bgs at well TFS-MW-14 to 2.90 feet bgs at wells TFS-MW-01 and TFS-MW-03.
- Water table elevations beneath the site ranged from 1.26 to 2.02 feet msl in January 2013. In January 2013, the direction of groundwater flow across the site was toward the west to southwest.
- The average horizontal gradient across the site in January 2013 was estimated to be 0.010 ft/ft.
- Vertical gradients were calculated for January 2013 using well cluster TFS-MW-01/TFS-MW-8D. An upward hydraulic gradient of 0.021 ft/ft was measured in January 2013.
- The seepage velocity of the water table aquifer was calculated to be 0.60 ft/day or 218.8 ft/year.

4.1.2 Groundwater Evaluation

- Water quality parameters measured during well purging and sampling indicate that conditions are favorable for the biodegradation of hydrocarbons to occur.
- VOCs benzene and xylenes were detected in monitoring well TFS-MW-15; benzene was the only VOC detected in well TFS-MW-04. All concentrations were below their respective GCTLs and marine SWCTLs. No VOCs were detected in the remaining seven monitoring wells.
- Sixteen SVOCs were detected in groundwater. SVOCs were detected in monitoring wells TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, TFS-MW-15, TFS-MW-16, and TFS-MW-17. Based on poor quality criteria, two SVOCs, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene, exceeded their respective GCTLs in wells TFS-MW-04 and TFS-MW-11.
- SVOCs anthracene, fluoranthene, and pyrene were detected in well TFS-MW-15 at concentrations exceeding their respective marine SWCTLs. The sum of acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,i,h)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h,)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene exceeded the marine SWCTL criterion of 0.031 µg/L at locations TFS-MW-01, TFS-MW-04, TFS-MW-05, TFS-MW-11, and TFS-MW-15.
- SVOCs were not detected in wells TFS-MW-8D and TFS-MW-12.
- TRPH was detected each monitoring wells sampled; concentrations ranged from 420J µg/L (well TFS-MW-16) to 23,500 µg/L (well TFS-MW-15). The GCTL for TRPH of 50,000 µg/L was not exceeded based upon the “poor quality” criterion.
- The TRPH marine SWCTL of 5,000 µg/L was exceeded in wells TFS-MW-04 and TFS-MW-15.

4.2 Recommendations

Based upon the groundwater sampling for VOCs collected during the site assessment addendum (April 2012), the first quarter monitoring event (July 2012), the second quarter monitoring event (October 2012), and the January

2013 monitoring event, the data demonstrate that the “poor quality” GCTLs and marine SWCTLs have been met for four consecutive groundwater sampling events. In accordance with the requirements of Chapter 62-770.690(8)(g) of the F.A.C., only two consecutive sampling events are required to demonstrate compliance at sites remediated through natural attenuation processes. Therefore, CH2M HILL recommends the following:

- Complete an ecological risk assessment to evaluate the potential risk to ecological receptors in the wetland area to the west of the TFS.
- Discontinue groundwater monitoring for VOCs at the TFS site.
- Continue quarterly groundwater monitoring to evaluate fluctuations in SVOC and TRPH concentrations. Specifically during each event, samples should be analyzed for PAHs.

SECTION 5

References

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Appendix A
Well Purge and Sample Logs

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand | SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-01 | SAMPLE ID: Q3-TFS-MW-01 | DATE: 1-15-13

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet | STATIC DEPTH TO WATER (feet): 2.97 | PURGE PUMP TYPE OR BAILER: Peri pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (11.95 feet – 2.97 feet) X 0.16 gallons/foot = 1.44 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOLUME = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (0.0014 gallons/foot X 8.98 feet) + 0.25 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | PURGING INITIATED AT: 1022 | PURGING ENDED AT: 1038 | TOTAL VOLUME PURGED (gallons): 1.25

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units: mmhos/cm or mS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1025	0.25	0.25	300	3.07	6.60	25.85	0.869	1.69	4.1	-111	None
1028	0.25	0.5	300	3.08	6.85	25.91	0.853	1.24	4.2	-147	"
1031	0.25	0.75	300	3.08	6.88	25.94	0.849	1.17	3.2	-162	"
1034	0.25	1.0	300	3.08	6.89	25.98	0.848	1.16	4.3	-174	"
1038	0.25	1.25	300	3.08	6.90	25.94	0.849	1.16	1.8	-180	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 | 1" = 0.04 | 1.25" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 5" = 1.02 | 6" = 1.47 | 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 | 3/16" = 0.0014 | 1/4" = 0.0026 | 5/16" = 0.004 | 3/8" = 0.006 | 1/2" = 0.010 | 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | PP = Peristaltic Pump | O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nikki Monroe / CH2M HILL | SAMPLER(S) SIGNATURE(S): [signature] | SAMPLING INITIATED AT: 1040 | SAMPLING ENDED AT: 1050

PUMP OR TUBING DEPTH IN WELL (feet): 4' | TUBING MATERIAL CODE: PP | FIELD FILTERED: Y (N) | Filtration Equipment Type: | FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N | TUBING Y (N (replaced)) | DUPLICATE Y (N)

SAMPLE ID CODE	# CONTAINERS	SAMPLE CONTAINER SPECIFICATION: MATERIAL CODE	VOLUME	SAMPLE PRESERVATION: PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
	3	CG	40ml	HCl	120	6.90	VOCs 8260B	SM	300
	2	AG	1L	None/None	2L	6.90	8270D/8270SIM	APP	300
	1	AG	1L	"	1L	6.90	FL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass | CG = Clear Glass | PE = Polyethylene | PP = Polypropylene | S = Silicone | T = Teflon | O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump | B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | RPPP = Reverse Flow Peristaltic Pump | SM = Straw Method (Tubing Gravity Drain) | O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20%: saturation (see Table FS 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Tank 611 Stand | SITE LOCATION: NAS KW Boca Chica

WELL NO: TFS-MW-04 | SAMPLE ID: G3-TFS-MW-04 | DATE: 1-15-13

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: feet to feet | STATIC DEPTH TO WATER (feet): 1.10 | PURGE PUMP TYPE OR BAILER: peristaltic pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not flat sided cable)
= 11.96 feet – 1.10 feet (10.86) X 0.16 gallons/foot = 1.74 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not flat sided cable)
= gallons + (0.0014 gallons/foot X 10.86 feet) + 0.25 gallons = 0.27 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | PURGING INITIATED AT: 1332 | PURGING ENDED AT: 1347 | TOTAL VOLUME PURGED (gallons): 1.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: micro/milli mhos/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (descriptor)
1335	0.25	0.25	300	1.41	7.27	29.04	1.21	3.11	1.7	-185	None
1338	0.25	0.5	300	1.40	7.07	28.46	1.35	1.05	6.7	-230	"
1341	0.25	0.75	300	1.40	7.05	27.68	1.39	0.67	2.7	-258	"
1344	0.25	1.0	300	1.40	7.04	27.59	1.40	0.62	2.8	-260	"
1347	0.25	1.25	300	1.40	7.04	27.51	1.40	0.57	2.9	-262	"
1350	0.25	1.50	300	1.40	7.04	27.54	1.40	0.56	2.6	-263	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 | 1" = 0.04 | 1.25" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 5" = 1.02 | 6" = 1.47 | 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 | 3/16" = 0.0014 | 1/4" = 0.0026 | 5/16" = 0.004 | 3/8" = 0.006 | 1/2" = 0.010 | 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | PP = Peristaltic Pump | O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: Nick Manoe / CH2M HILL | SAMPLER(S) SIGNATURE(S): [signature] | SAMPLING INITIATED AT: 1350 | SAMPLING ENDED AT:

PUMP OR TUBING DEPTH IN WELL (feet): 4' | TUBING MATERIAL CODE: PP | FIELD-FILTERED: Y (N) Filtration Equipment Type: | FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N | TUBING Y (N replaced) | DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
SAMPLE TYPE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40ml	HCl	120	7.04	8260B	SM	300
	2	AG	1L	None	2L	7.04	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1L	7.04	FL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass | CG = Clear Glass | PE = Polyethylene | PP = Polypropylene | S = Silicone | T = Teflon | O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump | B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | RFPP = Reverse Flow Peristaltic Pump | SM = Straw Method (Tubing Gravity Drain) | O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION OR TRAILING RANGE OF VARIATION OF LAST THREE READINGS (see FS 2212.5, 6, 7, 8)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2008

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand | SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-05 | SAMPLE ID: G3-TFS-MW05 | DATE: 1-15-13

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet | STATIC DEPTH TO WATER (feet): 2.89 | PURGE PUMP TYPE OR BAILER: Peri pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not flade cable)

= (11.95 feet – 2.89 feet) X 0.16 gallons/foot = 1.45 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not flade cable)

= gallons = (0.0014 gallons/foot X 9.06 feet) + 0.25 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | PURGING INITIATED AT: 1240 | PURGING ENDED AT: 1258 | TOTAL VOLUME PURGED (gallons): 1.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm) mL	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) mmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1243	0.25	0.25	300	3.02	7.61	28.91	0.682	6.71	4.0	-265	None
1246	0.25	0.5	300	3.03	7.60	28.92	0.656	6.59	4.7	-270	"
1249	0.25	0.75	300	3.03	7.58	28.97	0.631	6.30	4.5	-277	"
1252	0.25	1.0	300	3.03	7.57	28.99	0.597	5.86	3.7	-284	"
1255	0.25	1.25	300	3.03	7.57	29.02	0.580	5.57	4.4	-287	"
1258	0.25	1.5	300	3.04	7.57	29.00	0.579	5.52	3.2	-287	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 | 1" = 0.04 | 1.25" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 5" = 1.02 | 6" = 1.47 | 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 | 3/16" = 0.0014 | 1/4" = 0.0026 | 5/16" = 0.004 | 3/8" = 0.006 | 1/2" = 0.010 | 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | PP = Peristaltic Pump | O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nikki Monroe / CH2MHILL | SAMPLER'S SIGNATURE(S): [signature] | SAMPLING INITIATED AT: 1300 | SAMPLING ENDED AT: 1325

PUMP OR TUBING DEPTH IN WELL (feet): 4' | TUBING MATERIAL CODE: PP | FIELD-FILTERED: Y (N) | Filtration Equipment Type: | FILTER SIZE: N/A

FIELD DECONTAMINATION: PUMP (Y) N | TUBING Y (N) Dedicated | DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40 ml	HCl	120 ml	7.57	8260B	SM	300
	2	AG	1L	None	2L	7.57	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1L	7.57	FLPRO	APP	300

REMARKS

MATERIAL CODES: AG = Amber Glass | CG = Clear Glass | PE = Polyethylene | PP = Polypropylene | S = Silicone | T = Teflon | O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump | B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | RFPP = Reverse Flow Peristaltic Pump | SM = Straw Method (Tubing Gravity Drain) | O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater).

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-8D SAMPLE ID: Q3 TFS-MW-8D DATE: 1-15-13

PURGING DATA

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/16 WELL SCREEN INTERVAL DEPTH: 28 feet to 33 feet STATIC DEPTH TO WATER (feet): 2.33 PURGE PUMP TYPE OR BAILER: Peri pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not using bailer)
= (33.27 feet – 2.33 feet) X ~~0.0014~~ 0.16 gallons/foot = 4.95 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not using bailer)
= gallons + (gallons/foot X 0.0014 feet) + 0.25 gallons = 0.29 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 26' FINAL PUMP OR TUBING DEPTH IN WELL (feet): 26' PURGING INITIATED AT: 1050 PURGING ENDED AT: 1154 TOTAL VOLUME PURGED (gallons): 5.0

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (cc/min)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: mmhos/cm or µmhos/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1056	0.5	0.5	300	2.46	7.19	27.04	18.3	1.02	0.0	-348	None
1105	0.5	1.0	300	2.46	7.20	27.06	18.5	0.99	0.0	-351	"
1112	"	1.5	300	2.46	7.24	26.86	18.8	0.93	0.0	-353	"
1118	"	2.0	300	2.45	7.26	26.78	18.8	0.84	0.0	-354	"
1124	"	2.5	300	2.46	7.28	26.75	19.0	0.84	0.0	-355	"
1130	"	3.0	300	2.46	7.26	26.86	19.1	0.90	0.0	-356	"
1136	"	3.5	300	2.46	7.24	26.97	19.2	0.96	0.0	-356	"
1142	"	4.0	300	2.45	7.23	26.99	19.3	0.90	0.0	-356	"
1148	"	4.5	300	2.46	7.23	27.00	19.3	0.85	0.0	-356	"
1154	"	5.0	300	2.46	7.23	27.02	19.4	0.82	0.0	-356	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 1" = 0.04 1.25" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65 5" = 1.02 6" = 1.47 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 3/16" = 0.0014 1/4" = 0.0026 5/16" = 0.004 3/8" = 0.006 1/2" = 0.010 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer BP = Bladder Pump ESP = Electric Submersible Pump PP = Peristaltic Pump O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nikki Monroe / CH2M HILL SAMPLER(S) SIGNATURE(S): [signature] SAMPLING INITIATED AT: 1155 SAMPLING ENDED AT: 1225

PUMP OR TUBING DEPTH IN WELL (feet): 26' TUBING MATERIAL CODE: PP FIELD FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N TUBING Y (N) replaced DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION / SAMPLE PRESERVATION

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
	3	CG	40 mL	HCl	120	7.23	8260B	SM	300
	2	AG	1L	None/None	2 L	7.23	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1 L	7.23	FL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass CG = Clear Glass PE = Polyethylene PP = Polypropylene S = Silicone T = Teflon O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After-Peristaltic Pump B = Bailer BP = Bladder Pump ESP = Electric Submersible Pump RFPP = Reverse Flow Peristaltic Pump SM = Straw Method (Tubing Gravity Drain) O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (Ref. FS 2212, Section 3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-11 SAMPLE ID: Q3-TFS-MW-11 DATE: 1-16-13

PURGING DATA

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/16 WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet STATIC DEPTH TO WATER (feet): 1.13 PURGE PUMP TYPE OR BAILER: peristaltic pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (11.25 feet – 1.13 feet) x 0.16 gallons/foot = 1.62 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (0.0014 gallons/foot X 10.12 feet) + 0.25 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' PURGING INITIATED AT: 1002 PURGING ENDED AT: 1023 TOTAL VOLUME PURGED (gallons): 1.75

TIME	VOLUME PURGED (gallons)	CUMULATIVE VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) mmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1005	0.25	0.25	300	1.20	6.99	24.91	1.62	2.19	0.0	-305	None
1008		0.5	300	1.21	7.02	25.08	1.66	1.69	0.0	-324	"
1011		0.25	300	1.20	7.02	25.14	1.64	1.54	0.0	-328	"
1014		1.0	300	1.21	7.03	25.20	1.62	1.49	0.0	-332	"
1017		1.25	300	1.20	7.03	25.25	1.61	1.24	0.0	-337	"
1020	0.25	1.5	300	1.20	7.04	25.29	1.59	1.13	0.0	-337	"
1023	0.25	1.75	300	1.20	7.04	25.30	1.58	1.09	0.0	-336	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.66; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: N.M. Monroe / CH2M HILL SAMPLER(S) SIGNATURE(S): [signature] SAMPLING INITIATED AT: 1025 SAMPLING ENDED AT: 1050

PUMP OR TUBING DEPTH IN WELL (feet): 4' TUBING MATERIAL CODE: PP FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N TUBING Y (N) (dedicated) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE BOTTLE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	2	CG	40 mL	HCl	120	7.04	8260B	SM	300
	2	AG	1 L	None	2 L	7.04	8270D/SIM	APP	300
	1	AG	1 L	H2SO4	1 L	7.04	FL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF ADJUSTED READINGS (FLOW, IN MINUTES) (FS 2212 section 3)
pH: ± 0.2 units; Temperature: ± 0.2 °C; Specific Conductance: ± 5%; Dissolved Oxygen: all readings ≤ 20 % saturation (see Table FS 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater); Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand | SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-12 | SAMPLE ID: Q3-TFS-MW-12 | DATE: 1-16-13

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet | STATIC DEPTH TO WATER (feet): 2.14 | PURGE PUMP TYPE OR BAILER: peristaltic pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only if not applicable)
= (11.30 feet - 2.14 feet) X 0.16 gallons/foot = 1.47 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if not applicable)
= gallons + 0.0014 gallons/foot X 9.16 feet + 0.25 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | PURGING INITIATED AT: 1055 | PURGING ENDED AT: 1113 | TOTAL VOLUME PURGED (gallons): 1.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (ccm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (circle units: mmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1058	0.25	0.25	300	2.22	7.14	27.36	0.910	2.11	2.2	-258	None
1101		0.5	300	2.23	7.14	27.48	0.903	1.97	1.4	-266	"
1104		0.75	300	2.24	7.15	27.71	0.883	0.90	12.3	-281	"
1107		1.0	300	2.24	7.15	27.76	0.878	0.77	14.9	-284	"
1110		1.25	300	2.24	7.16	27.61	0.867	0.73	14.0	-287	"
1113	0.25	1.5	300	2.24	7.16	27.59	0.869	0.72	14.7	-287	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 | 1" = 0.04 | 1.25" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 5" = 1.02 | 6" = 1.47 | 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 | 3/16" = 0.0014 | 1/4" = 0.0026 | 5/16" = 0.004 | 3/8" = 0.006 | 1/2" = 0.010 | 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | PP = Peristaltic Pump | O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: Nikki Monroe / CH2MHILL | SAMPLER(S) SIGNATURE(S): [signature] | SAMPLING INITIATED AT: 1115 | SAMPLING ENDED AT: 1135

PUMP OR TUBING DEPTH IN WELL (feet): 4' | TUBING MATERIAL CODE: PP | FIELD FILTERED: Y (N) Filtration Equipment Type: | FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N | TUBING Y (N replaced) | DUPLICATE Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATRIX CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (ml)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml per minute)
	3		40ml	HCl	120	7.16	8260B	SM	300
	2		1L	None	2L	7.16	8270D/SIM	APP	300
	1		1L	H2SO4	1L	7.16	TL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass | CG = Clear Glass | PE = Polyethylene | PP = Polypropylene | S = Silicone | T = Teflon | O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = Alternate Peristaltic Pump | B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | RPP = Reverse Flow Peristaltic Pump | SM = Straw Method (Tubing Gravity Drain) | O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION OR CONVERGENCE OF WELL ON LAST THREE READINGS (Ref. FS 2212, sect. 6.3)
pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand | SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-15 | SAMPLE ID: Q3-TFS-MW-15 | DATE: 1-16-17

PURGING DATA

WELL DIAMETER (inches): 2 | TUBING DIAMETER (inches): 3/16 | WELL SCREEN INTERVAL DEPTH: 1 feet to 11 feet | STATIC DEPTH TO WATER (feet): 1.12 | PURGE PUMP TYPE OR BAILER: Peri pump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (10.25 feet – 1.12 feet) x 0.16 gallons/foot = 1.46 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (0.014 gallons/foot X 7.13 feet) + 0.25 gallons = 0.25 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4' | PURGING INITIATED AT: 1140 | PURGING ENDED AT: 1201 | TOTAL VOLUME PURGED (gallons): 1.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) (mmhos/cm or µS/cm)	DISSOLVED OXYGEN (circle units) (mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (described)
1143	0.25	0.25	300	1.20	6.68	24.48	2.02	1.41	7.5	-332	None
1146		0.5	300	1.19	6.67	24.48	2.03	0.89	10.4	-338	"
1149		0.75	300	1.20	6.66	24.94	2.05	0.61	20.3	-343	"
1152		1.0	300	1.21	6.65	25.00	2.06	0.56	21.5	-344	"
1155		1.25	300	1.21	6.65	25.06	2.06	0.51	22.4	-344	"
1158		1.5	300	1.22	6.64	25.11	2.06	0.47	19.5	-345	"
1201	0.25	1.75	300	1.22	6.64	25.17	2.06	0.44	17.4	-345	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 | 1" = 0.04 | 1.25" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 5" = 1.02 | 6" = 1.47 | 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./ft.): 1/8" = 0.0006 | 3/16" = 0.0014 | 1/4" = 0.0026 | 5/16" = 0.004 | 3/8" = 0.006 | 1/2" = 0.010 | 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | PP = Peristaltic Pump | O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nikki Monroe / CH2M HILL | SAMPLER(S) SIGNATURE(S): [signature] | SAMPLING INITIATED AT: 1205 | SAMPLING ENDED AT: 1245

PUMP OR TUBING DEPTH IN WELL (feet): 4' | TUBING MATERIAL CODE: PP | FIELD FILTERED: Y (N) | Filtration Equipment Type: | FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N | TUBING Y (N (replaced)) | DUPLICATE (Y) N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40ml	HCl	120	6.64	8260B	SM	300
	2	AG	1L	None	2L	6.64	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1L	6.64	FL-PRO	APP	300

REMARKS: FD: Q3-TFS-MW-15-FD @ 1210

MATERIAL CODES: AG = Amber Glass | CG = Clear Glass | PE = Polyethylene | PP = Polypropylene | S = Silicone | T = Teflon | O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump | B = Bailer | BP = Bladder Pump | ESP = Electric Submersible Pump | RFPP = Reverse Flow Peristaltic Pump | SM = Straw Method (Tubing Gravity Drain) | O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA (OR RANGE OF VARIATION OF LAST THREE READINGS) (See FS 2212, 62-160.3)
pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2) optionally ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand
SITE LOCATION: NASKW Boca Chica
WELL NO: TFS-MW-16
SAMPLE ID: Q3-TFS-MW-16
DATE: 1-16-13

PURGING DATA

WELL DIAMETER (inches): 2 3/8 in
TUBING DIAMETER (inches): 3/16
WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet
STATIC DEPTH TO WATER (feet): 1.98
PURGE PUMP TYPE OR BAILER: peri pump

WELL VOLUME PURGE: 1 WELL VOLUME = TOTAL WELL DEPTH – STATIC DEPTH TO WATER X WELL CAPACITY
(only if out of pipe cable)
= 12.15 feet – 1.98 feet X 0.16 gallons/foot = 1.63 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only if out of pipe cable)
= gallons + (0.0014 gallons/foot X 10.17 feet) + 0.25 gallons = 0.26 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 4'
FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4'
PURGING INITIATED AT: 1252
PURGING ENDED AT: 1313
TOTAL VOLUME PURGED (gallons): 1.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (mL/min)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units) umhos/cm or mS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1255	0.25	0.25	300	2.21	7.47	26.88	2.61	1.50	2.7	-316	None
1258		0.5	300	2.20	7.47	27.12	2.63	1.63	2.4	-325	"
1301		0.75	300	2.20	7.47	27.22	2.64	0.83	3.7	-336	"
1304		1.0	300	2.20	7.47	27.31	2.64	0.58	5.1	-334	"
1307		1.25	300	2.20	7.47	27.32	2.65	0.55	1.9	-335	"
1310		1.5	300	2.20	7.47	27.33	2.65	0.53	3.1	-335	"
1313	0.25	1.75	300	2.20	7.47	27.34	2.65	0.52	2.1	-336	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02, 1" = 0.04, 1.25" = 0.06, 2" = 0.16, 3" = 0.37, 4" = 0.65, 5" = 1.02, 6" = 1.47, 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006, 3/16" = 0.0014, 1/4" = 0.0026, 5/16" = 0.004, 3/8" = 0.006, 1/2" = 0.010, 5/8" = 0.016
PURGING EQUIPMENT CODES: B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, PP = Peristaltic Pump, O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Nikki Monroe / CH2MHILL
SAMPLER(S) SIGNATURE(S): [signature]
SAMPLING INITIATED AT: 1315
SAMPLING ENDED AT: 1340
PUMP OR TUBING DEPTH IN WELL (feet): 4'
TUBING MATERIAL CODE: PP
FIELD FILTERED: Y (N) Filtration Equipment Type:
FILTER SIZE: N/A µm
FIELD DECONTAMINATION: PUMP (Y) N TUBING Y (N) Dedicated DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION / SAMPLE PRESERVATION

SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL. ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	3	CG	40 ml	HCl	120	7.47	8260B	SM	300
	2	AG	1L	None	2L	7.47	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1L	7.47	FL-PRO	APP	300

REMARKS:

MATERIAL CODES: AG = Amber Glass, CG = Clear Glass, PE = Polyethylene, PP = Polypropylene, S = Silicone, T = Teflon, O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After-Peristaltic Pump, B = Bailer, BP = Bladder Pump, ESP = Electric Submersible Pump, RFPP = Reverse Flow Peristaltic Pump, SM = Straw Method (Tubing Gravity Drain), O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. Stabilization Criteria for range of variations of last three consecutive readings (S.O.P. FS 2212, Step 4.3):
pH: ± 0.2 units, Temperature: ± 0.2 °C, Specific Conductance: ± 5%, Dissolved Oxygen: all readings ≤ 20%: saturation (see table in S.O.P. 2200.2) optionally ± 0.2 mg/L or ± 10% (whichever is greater), Turbidity: all readings ≤ 20 NTU: optionally ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME: Truck Fill Stand SITE LOCATION: NASKW Boca Chica

WELL NO: TFS-MW-17 SAMPLE ID: Q3-TFS-MW-17 DATE: 1-17-13

PURGING DATA

WELL DIAMETER (inches): 2 TUBING DIAMETER (inches): 3/16 WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet STATIC DEPTH TO WATER (feet): 0.90 PURGE PUMP TYPE OR BAILER: peripump

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only if out of acceptable)
= (11.81 feet – 0.90 feet) X 0.16 gallons/foot = 1.75 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) = FLOW CELL VOLUME
(only if out of acceptable)
= gallons + (0.0014 gallons/foot X 10.91 feet) + 0.25 gallons = 0.27 gallons

TOTAL PUMP OR TUBING DEPTH IN WELL (feet): 4 FINAL PUMP OR TUBING DEPTH IN WELL (feet): 4 PURGING INITIATED AT: 1108 PURGING ENDED AT: 1129 TOTAL VOLUME PURGED (gallons): 1.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (cc/m)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (circle units: mmhos/cm or mS/cm)	DISSOLVED OXYGEN (circle units: mg/L or % saturation)	TURBIDITY (NTUs)	ORP (mV)	ODOR (describe)
1111	0.25	0.25	300	1.04	7.09	25.34	2.61	3.11	0.0	-319	None
1114		0.5	300	1.05	7.11	25.58	2.76	2.82	0.0	-329	"
1117		0.75	300	1.05	7.12	25.97	2.79	2.38	0.0	-334	"
1120		1.0	300	1.06	7.12	26.08	2.81	2.18	0.0	-335	"
1123		1.25	300	1.05	7.12	26.18	2.82	1.97	0.0	-336	"
1126		1.5	300	1.05	7.11	26.47	2.89	1.69	0.0	-338	"
1129	0.25	1.75	300	1.05	7.11	26.38	2.96	1.41	0.0	-340	"

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02 1" = 0.04 1.25" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65 5" = 1.02 6" = 1.47 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006 3/16" = 0.0014 1/4" = 0.0026 5/16" = 0.004 3/8" = 0.006 1/2" = 0.010 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer BP = Bladder Pump ESP = Electric Submersible Pump PP = Peristaltic Pump O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) AFFILIATION: Nikki Monroe/CH2MHILL SAMPLER(S) SIGNATURE(S): [signature] SAMPLING INITIATED AT: 1130 SAMPLING ENDED AT: 1245

PUMP OR TUBING DEPTH IN WELL (feet): 4 TUBING MATERIAL CODE: PP FIELD FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: N/A µm

FIELD DECONTAMINATION: PUMP (Y) N TUBING Y (N) replaced DUPLICATE (Y) N MS/MSD

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
SAMPLE ID CODE	# CONTAINERS	MATRIX CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40ml	HCl	120	7.11	8260B	SM	300
	2	AG	1L	None	2L	7.11	8270D/SIM	APP	300
	1	AG	1L	H2SO4	1L	7.11	FL-PRO	APP	300

REMARKS: EB: Q3-TFS-EB-01 @ 1020
MS: Q3-TFS-MW-17-MS @ 1135 MSD: Q3-TFS-MW-17-MSD @ 1135

MATERIAL CODES: AG = Amber Glass CG = Clear Glass PE = Polyethylene PP = Polypropylene S = Silicone T = Teflon O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After-Peristaltic Pump B = Bailer BP = Bladder Pump ESP = Electric Submersible Pump RFPP = Reverse Flow Peristaltic Pump SM = Straw Method (Tubing Gravity Drain) O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION OR ULTRA FOR RANGE OF VARIATION ACCEPTABLE (NOTE: SEE VERIFICATION FS 7212, SECTION 3)
pH: ± 0.2 units. Temperature: ± 0.2 °C. Specific Conductance: ± 5%. Dissolved Oxygen: all readings ≤ 20% saturation (see table FS 7200-2) or ± 0.2 mg/L or ± 10% (whichever is greater). Turbidity: all readings < 20 NTU or ± 5 NTU or ± 10% (whichever is greater)

Revision Date: February 12, 2009

Appendix B
Data Validation Summary and Laboratory Data

MEMORANDUM CH2MHILL

Data Validation Summary – NAS Key West Boca Chica / TFS – Groundwater Sampling 3rd Quarter

TO: Greg Rowell/CH2M HILL/ATL

FROM: Camden Robinson/CH2M HILL/ATL

DATE: February 11th, 2013

The purpose of this memorandum is to present the results of the data validation process for the samples collected at the Naval Air Station in Key West, Florida. The samples were collected on January 15th, 2013 thru January 17th, 2013.

The specific samples and analytical fractions reviewed are summarized below in Table 1.

The Quality Control areas that were reviewed and the resulting findings are documented within each subsection that follows. This data was validated for compliance with the analytical method requirements. This process also included a review of the data to assess the accuracy, precision, and completeness based upon procedures described in the guidance documents such as the Environmental Protection Agency (EPA *National Functional Guidelines for Organic Data Review (EPA 2008) and Inorganic Data Review (EPA 2010)*. Quality assurance/quality control (QA/QC) summary forms and data reports were reviewed.

Samples were submitted to PEL a division of Spectrum Analytical Inc. of Tampa, Florida, for the following analyses: SW-846 8260B Appendix IX List Volatile Organic Compounds (VOC), SW-846 8270D Semi-volatile Organic Compounds (SVOC), SW-846 8270D SIM Polycyclic Aromatic Hydrocarbons, and Total Petroleum Hydrocarbon by method FL-PRO.

Sample results that were not within the acceptance limits were appended with a qualifying flag, which consisted of a single- or double-letter code that indicated a possible problem with the data. The qualifying flags originated during the data review and validation processes. These also include the secondary, or the two/three-digit "sub-qualifier" flags. The secondary qualifiers provide the reasoning behind the assignment of a qualifier flag to the data. The secondary qualifiers are presented and defined below.

Attachment 1 lists the changes in data qualifiers, due to the validation process.

The following primary flags were used to qualify the data:

[=] Detected. The analyte was analyzed for and detected at the concentration shown.

[J] Estimated. The analyte was present but the reported value may not be accurate or precise.

[U] Undetected. The analyte was analyzed for but not detected above the method detection limit. The data validator may also apply this qualifier to indicate that a concentration was not detected at significantly greater than that in an associated blank.

[UJ] Detection limit estimated. The analyte was analyzed for but qualified as not detected; the result is estimated.

[UR] Rejected. The data is not useable. The absence of the analyte cannot be verified.

[R] Rejected. The data is not useable.

Secondary Qualifier Codes

Code	Definition
2SH	Second Source Accuracy High
2SL	Second Source Accuracy Low
BD	Blank Spike/Blank Spike Duplicate (LCS/LCSD) Precision
BL	Blank
BSH	Blank Spike/LCS Recovery High
BSL	Blank Spike/LCS Recovery Low
CCH	Continuing Calibration Verification Accuracy High
CCL	Continuing Calibration Verification Accuracy Low
DL	Dilution
FD	Field Duplicate
LD	Laboratory Duplicate
HT	Holding Time
ICH	Initial Calibration High
ICL	Initial Calibration Low
ISH	Internal Standard Area Response High
ISL	Internal Standard Area Response Low
LR	Linear Range (Exceeded calibration range)
MD	Matrix Spike/Matrix Spike Duplicate Precision
MSH	Matrix Spike and/or Matrix Spike Duplicate Recovery High
MSL	Matrix Spike and/or Matrix Spike Duplicate Recovery Low
OT	Other
RE	Re-extraction
RF	Response Factor
SSH	Spiked Surrogate Recovery High
SSL	Spiked Surrogate Recovery Low
TN	Tune
EMPC	Estimated Maximum Possible Concentration

Table 1 - Chemical Analytical Methods – Field and Quality Control Samples

SDG	Sample ID	Lab Sample ID	Matrix	Sample Type	Date Collected	Analyses Performed
3508006	Q3-TFS-MW-01	350800601	GW	N	01/15/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-8D	350800602	GW	N	01/15/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-05	350800603	GW	N	01/15/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-04	350800604	GW	N	01/15/2013	[1], [2], [3], [4]
3508006	Q3-TFS-TB-01	350800605	WQ	TB	01/15/2013	[1]
3508006	Q3-TFS-MW-11	350800606	GW	N	01/16/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-12	350800607	GW	N	01/16/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-15	350800608	GW	N	01/16/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-15-FD	350800609	GW	FD	01/16/2013	[1], [2], [3], [4]
3508006	Q3-TFS-MW-16	350800610	GW	N	01/16/2013	[1], [2], [3], [4]
3508012	Q3-TFS-TB-02	350801201	WQ	TB	01/17/2013	[1]
3508012	Q3-TFS-EB-01	350801202	WQ	EB	01/17/2013	[1], [2], [3], [4]
3508012	Q3-TFS-MW-17	350801203	GW	N	01/17/2013	[1], [2], [3], [4]
3508012	Q3-TFS-MW-17-MS	350801204	WQ	MS	01/17/2013	[1], [2], [3], [4]
3508012	Q3-TFS-MW-17-MSD	350801205	WQ	SD	01/17/2013	[1], [2], [3], [4]

MATRIX CODE

GW – Groundwater
WQ – Water Quality Control

SAMPLE TYPE CODE

N – Native Sample
FD – Field Duplicate
MS – Matrix Spike
SD – Matrix Spike Duplicate
TB – Trip Blank

ANALYSIS CODE

[1] – VOC –Volatile Organic Compounds by SW-846 method 8260B
[2] – SVOC – Semivolatile Organic Compounds by SW-846 method 8270D
[3] – PAH – Polycyclic Aromatic Hydrocarbons by SW-846 method 8270D SIM
[4] – TPH – Total Petroleum Hydrocarbon by method FL-PRO

Organic Parameters

Quality Control Review

The following list represents the QA/QC measures that were reviewed during the data quality evaluation procedure for organic data.

- **Holding Times** – The holding times are evaluated to verify that samples were extracted and analyzed within holding times.
- **Blank samples** – Method blanks, equipment blanks, and trip blanks were provided for this project. Blank samples enable the reviewer to determine if an analyte may be attributed to sampling or laboratory procedures, rather than environmental contamination from site activities.
- **Surrogate Recoveries** – Surrogate Compounds are added to each sample and the recoveries are used to monitor lab performance and possible matrix interference.
- **Lab Control Sample (LCS)** – This sample is a "controlled matrix", either laboratory reagent water or Ottawa sand, in which target compounds have been added prior to extraction/analysis. The recoveries serve as a monitor of the overall performance of each step during the analysis, including sample preparation.
- **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples** – Spike recovery is used to evaluate potential matrix interferences, as well as accuracy. Precision information is also determined by calculating the reproducibility between the recoveries of each spiked parameter.
- **Field Duplicate Samples** – These samples are collected to determine precision between a native and it's duplicate. This information can only be determined when target compounds are detected.
- **GC/MS Tuning** – The mass spectrum of the tuning compound is evaluated for method compliance. The criteria are established to verify the proper mass assignment and mass resolution.
- **Initial Calibration** – The initial calibration ensures that the instrument is capable of producing acceptable qualitative and quantitative data for the compounds of interest.
- **Continuing Calibration** – The continuing calibration checks satisfactory performance of the instrument and its predicted response to the target compounds.
- **Internal Standards** – The internal standards (retention time and response) are evaluated for method compliance. The internal standards are used in quantitation of the target parameters and monitor the instrument sensitivity and response for stability during each analysis.

Major Technical Issues

No major technical issues were identified.

Minor Technical Issues for Volatile Organic Compounds (VOCs) Analyses

Holding Time

All samples analyses were performed within hold time.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

The initial calibration (ICAL), second source calibration (2nd Source), and continuing calibration (CCAL) average response factors for the analytes listed below were outside criteria:

TABLE 2
Response Factors Out of QC Limits: Volatile Organic Compounds
NAS Key West Boca Chica / TFS – Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	ICAL	Isobutyl Alcohol	0.0032	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR

TABLE 2
Response Factors Out of QC Limits: Volatile Organic Compounds
NAS Key West Boca Chica / TFS – Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	ICAL	1,4-Dioxane	0.0029	0.0050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR
3508006 3508012	ICAL	Propionitrile	0.0451	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR
3508006 3508012	2nd Source	Isobutyl Alcohol	0.00287	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR

TABLE 2
Response Factors Out of QC Limits: Volatile Organic Compounds
NAS Key West Boca Chica / TFS – Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	2nd Source	Propionitrile	0.04319	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR
3508006 3508012	CCAL	Isobutyl Alcohol	0.00316	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR

The analytes listed are considered poor performers. All associated sample results were non-detect, therefore the quantitation limits reported for these compounds should be considered qualitatively invalid. This has been indicated by appending a "UR" qualifier next to the detection limit for these compounds in the associated field samples with a validation note of "RF" indicating that the results are not usable as the presence or absence of these compounds in these samples cannot be verified.

Blanks

There were no detections in the method blank samples. Acetone and toluene were detected in the equipment and trip blanks, but the associated sample results were non-detect for these analytes; therefore no qualifiers are needed.

Laboratory Control Sample Recoveries

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample Q3-TFS-MW-17. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Field Duplicates

Field sample Q3-TFS-MW-15 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Minor Technical Issues for Semi-Volatile Organic Compounds (SVOCs) Analyses

Holding Time

All samples analyses were performed within hold time.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

The initial calibration (ICAL), second source calibration (2nd Source), and continuing calibration (CCAL) average response factors for the analytes listed below were outside criteria:

TABLE 3
Response Factors / % Difference Out of QC Limits: Semi-Volatile Organic Compounds
NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag

TABLE 3

Response Factors / % Difference Out of QC Limits: Semi-Volatile Organic Compounds

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	ICAL	4-Nitroquinoline-1-oxide	0.01359	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR
3508006 3508012	2nd Source	4-Nitroquinoline-1-oxide	0.0156	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR
3508006 3508012	CCAL	4-Nitroquinoline-1-oxide	0.01448	0.050	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UR

TABLE 3
Response Factors / % Difference Out of QC Limits: Semi-Volatile Organic Compounds
NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Calibration	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	2nd Source	Methapyriline	-27.4%	25%	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UJ
3508006 3508012	2nd Source	1,3,5-Trinitrobenzene	-42.2%	25%	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	UJ

All associated sample results were non-detect, therefore the quantitation limits reported for these compounds should be considered qualitatively invalid for the low response factors or estimated for the low % difference recoveries. This has been indicated by appending a "UR" or "UJ" qualifier next to the detection limit for these compounds in the associated field samples with a validation note of "RF" or "2SL" indicating that the results are not usable as the presence or absence of these compounds in these samples cannot be verified or bias low estimates.

Blank Contaminants

There were no detections in the method and equipment blank samples.

Laboratory Control Sample Recoveries

The laboratory control sample recoveries were outside acceptable quality control limit as noted in Table 4 below.

TABLE 4

Laboratory Control Sample Recovery Out of QC Limits: Semi-Volatile Organic Compounds

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	Laboratory Control Sample	a,a-Dimethylphenethylamine	7.8%	70-130	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	Non-Detects - UR

TABLE 4

Laboratory Control Sample Recovery Out of QC Limits: Semi-Volatile Organic Compounds

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	Laboratory Control Sample	Hexachloropropene	0%	21-105	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	Non-Detects - UR

TABLE 4

Laboratory Control Sample Recovery Out of QC Limits: Semi-Volatile Organic Compounds

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	Laboratory Control Sample	1,4-Naphthoquinone	16%	28-143	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	Non-Detects - UJ

TABLE 4
Laboratory Control Sample Recovery Out of QC Limits: Semi-Volatile Organic Compounds
NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006 3508012	Laboratory Control Sample	2-Naphthylamine	35.8%	70-130	Q3-TFS-MW-01 Q3-TFS-MW-8D Q3-TFS-MW-05 Q3-TFS-MW-04 Q3-TFS-MW-11 Q3-TFS-MW-12 Q3-TFS-MW-15 Q3-TFS-MW-15-FD Q3-TFS-MW-16 Q3-TFS-MW-17	Non-Detects - UJ

The quantitation limits for the samples noted above were qualified as indicated above due to laboratory control sample and/or laboratory control sample duplicate recoveries were outside the acceptable limits that are listed in Table 4 with a validation note of "BSL" for low percent recovery. The results for a,a-dimethylphenethylamine and hexachloropropene were rejected and are considered not usable as the presence or absence of these compounds in these samples cannot be verified since the LCS sample was not recovered.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample Q3-TFS-MW-17. The matrix spike and matrix spike duplicate recoveries were outside acceptable quality control limit as noted in Table 5 below.

TABLE 5
Matrix Spike and Matrix Spike Duplicate Recovery Out of QC Limits: Semi-Volatile Organic Compounds
NAS Key West Boca Chica / TFS – Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508012	Matrix Spike	a,a-Dimethylphenethylamine	17.4%, 11.2%	70-130	Q3-TFS-MW-17	Non-Detects – UJ or Invalid UR
	Matrix Spike Duplicate	Hexachloropropene	0%, 0%	21-105		
		1,4-Naphthoquinone	0%, 0%	28-143		
		1-Naphthylamine	33.1%, 33.6%	38-91		
		2-Naphthylamine	25.1%, 27.9%	70-130		
		4-Aminobiphenyl	27.4%, 30.1%	49-103		
		4-Nitroquinoline-1-oxide	0%, 0%	10-125		
		p-Dimethylaminoazobenzene	66.2%, 67.7%	70-130		
		Isodrin	23.1%, 21.4%	54-110		

The quantitation limits for the sample noted above were qualified as estimated or invalid due to matrix spike and matrix spike duplicate recoveries were outside the acceptable limits that are listed in Table 5 with a validation note of "MSL" for low percent recovery.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits, except as noted in Table 6 below.

TABLE 6

Surrogate Recoveries Out of QC Limits: Semi-Volatile Organic Compounds

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006	Q3-TFS-MW-16	2-Fluorobiphenyl	44.6%	50-116	Q3-TFS-MW-16	Non-Detects-UJ
		p-Terphenyl-d14	47%	50-135		

The associated analytes for the samples listed above were qualified with a "UJ" for non-detects as estimated due to the surrogate recoveries were outside the acceptable limits that are listed in Table 6 with a validation note of "SSL" for low recovery.

Field Duplicates

Field sample Q3-TFS-MW-15 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Minor Technical Issues for Polycyclic Aromatic Hydrocarbons (PAH) Analyses

Holding Time

All samples analyses were performed within hold time.

GC/MS Instrument Performance

All GC/MS Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blank Contaminants

There were no detections in the method blank samples. Naphthalene was detected in the equipment blank sample, but the associated sample results were non-detect; therefore no qualifiers are needed.

Laboratory Control Sample Analysis

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample Q3-TFS-MW-17. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits.

Field Duplicates

Field sample Q3-TFS-MW-15 was collected and analyzed in duplicate. Field duplicate precision objectives were not met for acenaphthylene, benzo(a)anthracene, and chrysene. The sample results were qualified as estimated "J" with a validation note of "FD". Field duplicate precision could not be calculated for benzo(a)pyrene due to the sample result for Q3-TFS-MW-15 was below the reporting limit (non-detect).

Dilutions

The sample presented below in table 7 was analyzed at the dilution for the analysis indicated. This dilution was required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 7
Dilutions: PAH
NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

Sample ID	Analysis	Dilution Factor
Q3-TFS-MW-04	PAH	10X

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Minor Technical Issues for Total Petroleum Hydrocarbon (TPH) Analyses

Holding Time

All samples analyses were performed within hold time.

Instrument Performance

All Instrument Performance criteria were met.

Calibration

All Initial, 2nd Source, and Continuing Calibration criteria were met.

Blank Contaminants

There were no detections in the equipment and method blank samples.

Laboratory Control Sample Analysis

Laboratory control samples (LCS) were prepared and analyzed with each sample preparation batch and analytical run. Laboratory accuracy objectives were met for all LCS samples.

Matrix Spike and Matrix Spike Duplicate Recoveries

A matrix spike and spike duplicate samples were collected and analyzed using field sample Q3-TFS-MW-17. The matrix spike / matrix spike duplicate (MS/MSD) accuracy and precision objectives were met.

Surrogate Recoveries

All surrogate recoveries were within acceptable quality control limits, except as noted in Table 8 below.

TABLE 8
Surrogate Recoveries Out of QC Limits: Total Petroleum Hydrocarbon
NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

SDG	Sample	Parameter	Recovery	Recovery Limits	Associated Samples	Flag
3508006	Q3-TFS-MW-01	o-terphenyl	68.7%	82-142	Q3-TFS-MW-01	Detects-J
3508006	Q3-TFS-MW-04	o-terphenyl	76.6%	82-142	Q3-TFS-MW-04	Detects-J
3508012	Q3-TFS-MW-17	o-terphenyl	79.6%	82-142	Q3-TFS-MW-17	Detects-J

The TPH results for the samples listed above were qualified with a "J" as estimated for detects due to the surrogate recoveries were outside the acceptable limits that are listed in Table 8 with a validation note of "SSL".

Field Duplicates

Field sample Q3-TFS-MW-15 was collected and analyzed in duplicate. Field duplicate precision objectives were met.

Dilutions

The samples presented below in table 9 were analyzed at dilutions for the analysis indicated. These dilutions were required to prevent saturation of the instrument, to allow quantitation of the compounds within the linear range of the calibration curve, and/or to reduce the effects of the matrix on the target compounds. Positive results for compounds reported above the calibration range in the initial analysis have been reported from the diluted analyses.

TABLE 9
Dilutions: TPH

NAS Key West Boca Chica / TFS –Groundwater Sampling 3rd Quarter

Sample ID	Analysis	Dilution Factor
Q3-TFS-MW-04	TPH	5X
Q3-TFS-MW-15	TPH	10X
Q3-TFS-MW-15-DUP	TPH	10X

Rejected Data

No data were rejected based upon the validation process for this sampling event.

Data Usability

A review of the analytical data submitted regarding the investigation of NAS Key West Boca Chica, TFS-Groundwater Sampling 3rd quarter, by CH2M HILL has been completed. An overall evaluation of the data indicates that the sample handling, shipment, and analytical procedures have been adequately completed, and that the analytical results should be considered usable as qualified.

The data user can use the data recognizing the potential data biases indicated by the data qualifiers assigned to some results. Data was qualified for a subset of results based on low response factors for the initial, second source, and/or continuing calibrations, low percent difference for second source, low surrogate recovery bias, low matrix spike and matrix spike duplicate recovery bias, low laboratory control sample recovery bias, and field duplicate imprecision. The data user should be cautioned about using results that have been rejected because of very low spike recovery bias since the presence or absence of these compounds cannot be verified

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	LIR - RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	LIR - RF

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	LR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	LR-RF

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.52		0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code: PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40 UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40 ↓
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20 UR-RF

CT

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

CL

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code: PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted: Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup: (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.: Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code: PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.26	J	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

310113 1529

Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	0.78	J	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.27	J	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

310113 1529

Form I

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	0.72	J	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40 UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40 ↓
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20 UR-RF

340113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 006-01.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0008

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.11		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.15		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.038	J	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.053		0.02	0.04	0.05
86-73-7	Fluorene	0.14		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.032	J	0.02	0.04	0.05

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 006-02.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0032

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

CK

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 006-03.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0056

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.49		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.22		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.031	J	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.052		0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.034	J	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.066		0.02	0.04	0.05
86-73-7	Fluorene	0.054		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.068		0.02	0.04	0.05
91-20-3	Naphthalene	0.26		0.02	0.04	0.05
85-01-8	Phenanthrene	0.035	J	0.02	0.04	0.05
129-00-0	Pyrene	0.053		0.02	0.04	0.05

CL

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 1314

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	54.4		0.2	0.4	0.5
91-57-6	2-Methylnaphthalene	14.5		0.2	0.4	0.5
83-32-9	Acenaphthene	0.43	J	0.2	0.4	0.5
208-96-8	Acenaphthylene	0.29	J	0.2	0.4	0.5
120-12-7	Anthracene	0.4	U	0.2	0.4	0.5
56-55-3	Benzo(a)anthracene	0.4	U	0.2	0.4	0.5
50-32-8	Benzo(a)pyrene	0.48	J	0.2	0.4	0.5
205-99-2	Benzo(b)fluoranthene	0.4	U	0.2	0.4	0.5
191-24-2	Benzo(g,h,i)perylene	0.4	U	0.2	0.4	0.5
207-08-9	Benzo(k)fluoranthene	0.4	U	0.2	0.4	0.5
218-01-9	Chrysene	0.4	U	0.2	0.4	0.5
53-70-3	Dibenzo(a,h)anthracene	0.76		0.2	0.4	0.4
206-44-0	Fluoranthene	0.4	U	0.2	0.4	0.5
86-73-7	Fluorene	0.55		0.2	0.4	0.5
193-39-5	Indeno(1,2,3-cd)pyrene	0.64		0.2	0.4	0.5
91-20-3	Naphthalene	8.8		0.2	0.4	0.5
85-01-8	Phenanthrene	0.4	U	0.2	0.4	0.5
129-00-0	Pyrene	0.4	U	0.2	0.4	0.5

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 006-06.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0143

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.37		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.038	J	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.052		0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.039	J	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.086		0.02	0.04	0.04
206-44-0	Fluoranthene	0.028	J	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.073		0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 006-07.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0206

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 006-08.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0230

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
90-12-0	1-Methylnaphthalene	9.7		0.02	0.04	0.05	
91-57-6	2-Methylnaphthalene	2.6		0.02	0.04	0.05	
83-32-9	Acenaphthene	2.1		0.02	0.04	0.05	
208-96-8	Acenaphthylene	0.1		0.02	0.04	0.05	J-FD
120-12-7	Anthracene	0.54		0.02	0.04	0.05	
56-55-3	Benzo(a)anthracene	0.14		0.02	0.04	0.05	J-FD
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05	
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05	
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05	
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05	
218-01-9	Chrysene	0.11		0.02	0.04	0.05	J-FD
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04	
206-44-0	Fluoranthene	1.3		0.02	0.04	0.05	
86-73-7	Fluorene	2.8		0.02	0.04	0.05	
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05	
91-20-3	Naphthalene	7.4		0.02	0.04	0.05	
85-01-8	Phenanthrene	2.7		0.02	0.04	0.05	
129-00-0	Pyrene	0.95		0.02	0.04	0.05	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 006-09.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0253

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
90-12-0	1-Methylnaphthalene	8.8		0.02	0.04	0.05	
91-57-6	2-Methylnaphthalene	2.2		0.02	0.04	0.05	
83-32-9	Acenaphthene	2.2		0.02	0.04	0.05	
208-96-8	Acenaphthylene	0.13		0.02	0.04	0.05	J- FD
120-12-7	Anthracene	0.6		0.02	0.04	0.05	
56-55-3	Benzo(a)anthracene	0.18		0.02	0.04	0.05	J-FD
50-32-8	Benzo(a)pyrene	0.055		0.02	0.04	0.05	
205-99-2	Benzo(b)fluoranthene	0.043	J	0.02	0.04	0.05	
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05	
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05	
218-01-9	Chrysene	0.14		0.02	0.04	0.05	J-FD
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04	
206-44-0	Fluoranthene	1.5		0.02	0.04	0.05	
86-73-7	Fluorene	3		0.02	0.04	0.05	
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05	
91-20-3	Naphthalene	6.9		0.02	0.04	0.05	
85-01-8	Phenanthrene	3		0.02	0.04	0.05	
129-00-0	Pyrene	1.1		0.02	0.04	0.05	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 006-10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0317

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.032	J	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10 UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4 UJ-2SL
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4 UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code: PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ-2SL
140-57-8	Aramite	8	U	4	8	8	
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

UJ-SSL

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

UJ - SSL

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2	UJ-SSL
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4	
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5	
76-01-7	Pentachloroethane	5	U	2.5	5	20.1	
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4	
98-86-2	Acetophenone	8	U	4	8	8	
59-89-2	N-Nitrosomorpholine	6	U	3	6	6	
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4	
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2	UR-BSL,SSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7	UJ-SSL
1888-71-7	Hexachloropropene	4	U	2	4	4	UR-BSL, SSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4	UJ-SSL
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2	
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4	
94-59-7	Safrole	5	U	2.5	5	5	
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2	UJ-BSL,SSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5	UJ-SSL
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4	
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4	
91-59-8	2-Naphthylamine	5	U	2.5	5	5	UJ-BSL,SSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6	UJ-SSL
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2	
106-50-3	p-Phenylenediamine	4	U	2	4	4	
62-44-2	Phenacetin	1.8	U	0.89	1.8	4	
92-67-1	4-Aminobiphenyl	4	U	2	4	4	
23950-58-5	Pronamide	1.6	U	0.81	1.6	4	

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4	UJ-SSL
88-85-7	Dinoseb	8	U	4	8	8	
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10	UR-RF, SSL
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4	UJ- 2SL, SSL
140-57-8	Aramite	8	U	4	8	8	UJ-SSL
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4	
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4	
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4	
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4	
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6	
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4	UJ- 2SL, SSL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4	UJ-SSL
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2	
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4	
143-50-0	Kepone	32.2	U	16.1	32.2	32.2	
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8	

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 006-1.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 1928

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
5289290-40-0	TPH	2600		251	502	502	J- SSL

310113 1530

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FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 006-2.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 1950

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	580		251	502	502

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FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 006-3.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2012

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	920		251	502	502

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code: PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 006-4D5.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0841

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
5289290-40-0	TPH	13200		1260	2510	2510	J- SSL

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 006-6.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2141

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	2400		251	502	502

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 006-7.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2203

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	560		251	502	502

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 006-8D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0903

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	23500		2510	5020	5020

310113 1530

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FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 006-9D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0925

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	22700		2510	5020	5020

210113 1530

Form I

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 006-10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2310

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	420	J	251	502	502

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	4.2	J	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	3.2		0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	3.8	J	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	3.3		0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	ANALYTE	RESULT	Q	MDL	LOD	LOQ	
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1	
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4	
108-88-3	Toluene	0.28	U	0.14	0.28	1	
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1	
97-63-2	Ethyl methacrylate	1	U	0.5	1	1	
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1	
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5	
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4	
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5	
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1	
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5	
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5	
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5	
100-42-5	Styrene	0.26	U	0.13	0.26	1	
75-25-2	Bromoform	0.38	U	0.19	0.38	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26	
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1	
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2	
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4	
75-05-8	Acetonitrile	20	U	10	20	20	
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1	
123-91-1	1,4-Dioxane	20	U	10	20	40	UR-RF
78-83-1	Isobutyl alcohol	40	U	20	40	40	↓
126-98-7	Methacrylonitrile	2	U	1	2	10	
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1	
107-12-0	Propionitrile	20	U	10	20	20	UR-RF

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VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 012-02.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 2049

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.024	J	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 012-03.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 2113

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.021	J	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	1.3		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.038	J	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2 UR-BSL, MSL
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4 UR-BSL, MSL
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2 UJ-BSL, MSL
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4 UJ-MSL
91-59-8	2-Naphthylamine	5	U	2.5	5	5 UJ-BSL, MSL
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4 UJ-MSL
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10 UR-RF, MSL
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4 UJ-2SL
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4 UJ-MSL
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4 UJ-2SL
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2 UJ-MSL
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 012-2.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 2 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1656

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	502	U	251	502	502

040213 1554

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 012-3.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 2 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1718

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*	
5289290-40-0	TPH	1900		251	502	502	J- SSL

040213 1554

Form I

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Page 1 of 1 3508006 MK

CHAIN OF CUSTODY RECORD

☐ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☒ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 175 Metro Center Blvd, Warwick, RI 02886, (401) 732-3400

Special Handling:
TAT- Indicate Date Needed: 28 Day
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Greg Rowell, CH2M HILL, Atlanta, GA
Telephone #:
Project Mgr. Greg Rowell

Invoice To: Greg Rowell -ON FILE-
P.O. No.: RQN:

Project No.: 426847.PP.FW.09
Site Name: NASKW TFS
Location: Boca Chica State: FL
Sampler(s): Nikki Monroe

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= 12=

List preservative code below: 2 | | | 3 | | | | |

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		8260B	8270D	8270 SIM	FL-PRO					QA/QC Reporting Notes:
-01	Q3-TFS-MW-01	1-15-13	1040			3	3				X	X	X	X					
-02	Q3-TFS-MW-8D	1-15-13	1155			3	3				X	X	X	X					
-03	Q3-TFS-MW-05	1-15-13	1300			3	3				X	X	X	X					
-04	Q3-TFS-MW-04	1-15-13	1350			3	3				X	X	X	X					
-05	Q3-TFS-TB-01	1-15-13	—			2					2								TB
-06	Q3-TFS-MW-11	1-16-13	1025			3	3				X	X	X	X					
-07	Q3-TFS-MW-12	1-16-13	1115			3	3				X	X	X	X					
-08	Q3-TFS-MW-15	1-16-13	1205			3	3				X	X	X	X					
-09	Q3-TFS-MW-15-FD	1-16-13	1210			3	3				X	X	X	X					
-10	Q3-TFS-MW-16	1-16-13	1315			3	3				X	X	X	X					

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State-specific reporting standards: per contract

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature] / CH2M HILL	Fed Ex	1-16-13	1700	3.2
	[signature]	1/17/13	10:04	5.4
				2.8

☒ EDD Format CH2M HILL
☒ E-mail to greg.howell@ch2m.com
PHC 2 8260 FL-PRO

Condition upon receipt:
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

3508006

209

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 1 of 1 3508012 MIC

CHAIN OF CUSTODY RECORD

☐ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☒ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 175 Metro Center Blvd, Warwick, RI 02886, (401) 732-3400

Special Handling:
TAT- Indicate Date Needed: 28 days
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Greg Rowell, CH2M HILL, Atlanta, GA
Telephone #: 770 604 9182 x 54301
Project Mgr. Greg Rowell

Invoice To: Greg Rowell – on file –
P.O. No.: RQN:

Project No.: 426847.PP.FW.09
Site Name: NASKW TFS
Location: Boca Chica State: FL
Sampler(s): Nikki Monroe

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= 12=

List preservative code below: 2 | 3

QA/QC Reporting Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8260B	8270D	8270 SIM	FL-PRO	Notes
-01	Q3-TFS-TB-02	1-17-13	—	G	W	2				X				TB
-02	Q3-TFS-EB-01	1-17-13	1020	G	GW	3	3			X	X	X	X	EB
-03	Q3-TFS-MW-17	1-17-13	1130	G	GW	3	3			X	X	X	X	
-04	Q3-TFS-MW-17-MS	1-17-13	1135	G	GW	3	3			X	X	X	X	MS
-05	Q3-TFS-MW-17-MSD	1-17-13	1135	G	GW	3	3			X	X	X	X	MSD

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State-specific reporting standards: per contract

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature] / CH2M HILL	Fed Ex	1-17-13	1400	4.2
	[signature]	1/18/13	09:50	3.6

☒ EDD Format CH2M HILL
☐ E-mail to greg.rowell@ch2m.com

PH<2 8260, FL-PRO

Condition upon receipt:
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

3508012

157

Date Reported:
31-Jan-13

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

CH2M Hill
115 Perimeter Center Place, NE
Suite 700
Atlanta, GA 30346-1278

Attn: Kama White

Project # 3508006
Project: NASKW TFS 426847.PP.FW.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
350800601	Q3-TFS-MW-01	W	15-Jan-13 10:40	17-Jan-13 10:04
350800602	Q3-TFS-MW-8D	W	15-Jan-13 11:55	17-Jan-13 10:04
350800603	Q3-TFS-MW-05	W	15-Jan-13 13:00	17-Jan-13 10:04
350800604	Q3-TFS-MW-04	W	15-Jan-13 13:50	17-Jan-13 10:04
350800605	Q3-TFS-TB-01	W	15-Jan-13 0:00	17-Jan-13 10:04
350800606	Q3-TFS-MW-11	W	16-Jan-13 10:25	17-Jan-13 10:04
350800607	Q3-TFS-MW-12	W	16-Jan-13 11:15	17-Jan-13 10:04
350800608	Q3-TFS-MW-15	W	16-Jan-13 12:05	17-Jan-13 10:04
350800609	Q3-TFS-MW-15-FD	W	16-Jan-13 12:10	17-Jan-13 10:04
350800610	Q3-TFS-MW-16	W	16-Jan-13 13:15	17-Jan-13 10:04

Soil samples are reported on dry weight basis, unless otherwise noted.

Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis.

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet unless noted in the case narrative.

Please contact the laboratory at 813-888-9507 with any questions regarding the data contained in the laboratory report.

Florida	E84207
Texas	T104704408-12-4
South Carolina	96011001
North Dakota	R-178
California	07253CA
Louisiana	02025
Kansas	E-10385
Arkansas	11-036-1

NELAP ACCREDITED TNI LABORATORY

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2259 Testing

Respectfully Submitted,

Brian Spann
Laboratory Director
Spectrum Analytical, Inc. Florida Division

Table of Contents

Organics 6

8260 Volatile Organics 9

8260 Sample Data 13

8260 QC Summary 44

8260 Standards Data 58

8270 SIM Semi-Volatile Organics 67

8270 SIM Sample Data 71

8270 SIM QC Summary 81

8270 SIM Standards Data 93

8270 Semi-Volatile Organics 98

8270 Sample Data 103

8270 QC Summary 140

8270 Standards Data 158

FL-PRO Organics 175

FL-PRO Sample Data 179

FL-PRO QC Summary 189

FL-PRO Standards Data 196

Chain of Custody Documentation 208

Addendum 219

End of Report 227

EXECUTIVE SUMMARY - Detection Highlights

3508006

SAMPLE ID: Q3-TFS-MW-01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
1-Methylnaphthalene	0.110	0.050	UG/L	SW8270D-SIM
Acenaphthene	0.150	0.050	UG/L	SW8270D-SIM
Acenaphthylene	0.0380 J	0.050	UG/L	SW8270D-SIM
Fluoranthene	0.0530	0.050	UG/L	SW8270D-SIM
Fluorene	0.140	0.050	UG/L	SW8270D-SIM
Pyrene	0.0320 J	0.050	UG/L	SW8270D-SIM
TPH	2600	500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-04

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Benzene	0.520	0.50	UG/L	SW8260B
1-Methylnaphthalene	54.4	0.50	UG/L	SW8270D-SIM
2-Methylnaphthalene	14.5	0.50	UG/L	SW8270D-SIM
Acenaphthene	0.430 J	0.50	UG/L	SW8270D-SIM
Acenaphthylene	0.290 J	0.50	UG/L	SW8270D-SIM
Benzo(a)pyrene	0.480 J	0.50	UG/L	SW8270D-SIM
Dibenzo(a,h)anthracene	0.760	0.40	UG/L	SW8270D-SIM
Fluorene	0.550	0.50	UG/L	SW8270D-SIM
Indeno(1,2,3-cd)pyrene	0.640	0.50	UG/L	SW8270D-SIM
Naphthalene	8.80	0.50	UG/L	SW8270D-SIM
TPH	13200	2500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-05

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
1-Methylnaphthalene	0.490	0.050	UG/L	SW8270D-SIM
Acenaphthene	0.220	0.050	UG/L	SW8270D-SIM
Anthracene	0.0310 J	0.050	UG/L	SW8270D-SIM
Benzo(a)pyrene	0.0520	0.050	UG/L	SW8270D-SIM
Benzo(b)fluoranthene	0.0340 J	0.050	UG/L	SW8270D-SIM
Fluoranthene	0.0660	0.050	UG/L	SW8270D-SIM

310113 1528

EXECUTIVE SUMMARY - Detection Highlights

3508006

Fluorene	0.0540	0.050	UG/L	SW8270D-SIM
Indeno(1,2,3-cd)pyrene	0.0680	0.050	UG/L	SW8270D-SIM
Naphthalene	0.260	0.050	UG/L	SW8270D-SIM
Phenanthrene	0.0350 J	0.050	UG/L	SW8270D-SIM
Pyrene	0.0530	0.050	UG/L	SW8270D-SIM
TPH	920	500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Acenaphthene	0.370	0.050	UG/L	SW8270D-SIM
Anthracene	0.0380 J	0.050	UG/L	SW8270D-SIM
Benzo(a)pyrene	0.0520	0.050	UG/L	SW8270D-SIM
Benzo(b)fluoranthene	0.0390 J	0.050	UG/L	SW8270D-SIM
Dibenzo(a,h)anthracene	0.0860	0.040	UG/L	SW8270D-SIM
Fluoranthene	0.0280 J	0.050	UG/L	SW8270D-SIM
Indeno(1,2,3-cd)pyrene	0.0730	0.050	UG/L	SW8270D-SIM
TPH	2400	500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-12

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
TPH	560	500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Benzene	0.260 J	0.50	UG/L	SW8260B
Xylene (total)	0.780 J	2.0	UG/L	SW8260B
1-Methylnaphthalene	9.70	0.050	UG/L	SW8270D-SIM
2-Methylnaphthalene	2.60	0.050	UG/L	SW8270D-SIM
Acenaphthene	2.10	0.050	UG/L	SW8270D-SIM
Acenaphthylene	0.100	0.050	UG/L	SW8270D-SIM

310113 1528

EXECUTIVE SUMMARY - Detection Highlights

3508006

Anthracene	0.540	0.050	UG/L	SW8270D-SIM
Benzo(a)anthracene	0.140	0.050	UG/L	SW8270D-SIM
Chrysene	0.110	0.050	UG/L	SW8270D-SIM
Fluoranthene	1.30	0.050	UG/L	SW8270D-SIM
Fluorene	2.80	0.050	UG/L	SW8270D-SIM
Naphthalene	7.40	0.050	UG/L	SW8270D-SIM
Phenanthrene	2.70	0.050	UG/L	SW8270D-SIM
Pyrene	0.950	0.050	UG/L	SW8270D-SIM
TPH	23500	5000	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-15-FD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Benzene	0.270 J	0.50	UG/L	SW8260B
Xylene (total)	0.720 J	2.0	UG/L	SW8260B
1-Methylnaphthalene	8.80	0.050	UG/L	SW8270D-SIM
2-Methylnaphthalene	2.20	0.050	UG/L	SW8270D-SIM
Acenaphthene	2.20	0.050	UG/L	SW8270D-SIM
Acenaphthylene	0.130	0.050	UG/L	SW8270D-SIM
Anthracene	0.600	0.050	UG/L	SW8270D-SIM
Benzo(a)anthracene	0.180	0.050	UG/L	SW8270D-SIM
Benzo(a)pyrene	0.0550	0.050	UG/L	SW8270D-SIM
Benzo(b)fluoranthene	0.0430 J	0.050	UG/L	SW8270D-SIM
Chrysene	0.140	0.050	UG/L	SW8270D-SIM
Fluoranthene	1.50	0.050	UG/L	SW8270D-SIM
Fluorene	3.00	0.050	UG/L	SW8270D-SIM
Naphthalene	6.90	0.050	UG/L	SW8270D-SIM
Phenanthrene	3.00	0.050	UG/L	SW8270D-SIM
Pyrene	1.10	0.050	UG/L	SW8270D-SIM
TPH	22700	5000	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-MW-16

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
2-Methylnaphthalene	0.0320 J	0.050	UG/L	SW8270D-SIM
TPH	420 J	500	UG/L	FL-PRO

310113 1528

EXECUTIVE SUMMARY - Detection Highlights

3508006

SAMPLE ID: Q3-TFS-MW-8D

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
TPH	580	500	UG/L	FL-PRO

310113 1528

Organics

310113 1528

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns.

N This qualifier indicates presumptive evidence of an analyte. This qualifier is only used for tentatively identified compounds (TIC), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

310113 1528

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

310113 1528

8260 Volatile Organics

310113 1528

CASE NARRATIVE
Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8260B

IV. PREPARATION

Water samples were prepared by SW846/5030 for EPA8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met with the exception of:

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

LCS 012513LCS11D was analyzed with the water samples on 01/25/13. The following analyte(s) exceeded RPD criteria: Acetone at 30.4 % with criteria of (20). No further action was taken, since all percent recovery criteria were met.

Samples coded accordingly.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

No spikes requested by client.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

Signature:

Name: Brian C. Spanh Title: Lab Director

SIGNED: DATE: 01/28/2013

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Method: 8260

EPA Sample No	Lab Sample ID
Q3-TFS-MW-01	350800601
Q3-TFS-MW-8D	350800602
Q3-TFS-MW-05	350800603
Q3-TFS-MW-04	350800604
Q3-TFS-TB-01	350800605
Q3-TFS-MW-11	350800606
Q3-TFS-MW-12	350800607
Q3-TFS-MW-15	350800608
Q3-TFS-MW-15-FD	350800609
Q3-TFS-MW-16	350800610

310113 1528

8260 Sample Data

310113 1529

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

310113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 800601.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1802

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 800602.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1824

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 800603.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1847

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.52		0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 800604.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1909

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

310113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

310113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800605 Lab File ID 800605.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1932

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

310113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 800606.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1954

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 800607.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2017

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.26	J	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 800608.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2039

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	0.78	J	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.27	J	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 800609.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2102

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	0.72	J	0.5	1	2

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Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 800610.D

Sample wt/vol: 5 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2125

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

310113 1529

Form I

8260 QC Summary

310113 1529

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 012513BLK12 Lab File ID: BLK12.D

Sample wt/vol: 5 Units: ML Date Received: 01/25/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1739

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1

310113 1529

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 012513BLK12 Lab File ID: BLK12.D

Sample wt/vol: 5 Units: ML Date Received: 01/25/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1739

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID: BLK12.D Lab Sample ID: 012513BLK12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 01/25/13

Level:(low/med) LOW Time Analyzed: 1739

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609
2	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632
3	Q3-TFS-MW-01	350800601	800601.D	01/25/13	1802
4	Q3-TFS-MW-8D	350800602	800602.D	01/25/13	1824
5	Q3-TFS-MW-05	350800603	800603.D	01/25/13	1847
6	Q3-TFS-MW-04	350800604	800604.D	01/25/13	1909
7	Q3-TFS-TB-01	350800605	800605.D	01/25/13	1932
8	Q3-TFS-MW-11	350800606	800606.D	01/25/13	1954
9	Q3-TFS-MW-12	350800607	800607.D	01/25/13	2017
10	Q3-TFS-MW-15	350800608	800608.D	01/25/13	2039
11	Q3-TFS-MW-15-FD	350800609	800609.D	01/25/13	2102
12	Q3-TFS-MW-16	350800610	800610.D	01/25/13	2125

COMMENTS:

Page 1 of 1

310113 1529

Form IV

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508006

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
012513BLK12	98.8	99.4	102.0	103.0			0
012513LCS11	100.0	103.0	105.0	101.0			0
012513LCS11D	101.0	102.0	104.0	98.8			0
Q3-TFS-MW-01	103.0	102.0	102.0	107.0			0
Q3-TFS-MW-04	100.0	105.0	104.0	105.0			0
Q3-TFS-MW-05	97.4	101.0	101.0	102.0			0
Q3-TFS-MW-11	100.0	104.0	107.0	104.0			0
Q3-TFS-MW-12	102.0	101.0	103.0	106.0			0
Q3-TFS-MW-15	99.6	106.0	104.0	104.0			0
Q3-TFS-MW-15-FD	98.2	104.0	105.0	106.0			0
Q3-TFS-MW-16	102.0	102.0	104.0	103.0			0
Q3-TFS-MW-8D	105.0	101.0	103.0	105.0			0
Q3-TFS-TB-01	103.0	101.0	104.0	105.0			0

Control Limits

S1	=	Dibromofluoromethane	85 -	115
S2	=	Toluene-d8	85 -	120
S3	=	4-Bromofluorobenzene	75 -	120
S4	=	1,2-Dichloroethane-d4	70 -	120

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

310113 1529

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: BFB11.D BFB Injection Date: 01/25/13

Instrument ID: VMS01 BFB Injection Time: 0644

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	15.4	
75	30.0 - 60.0% of mass 95	45.1	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7	
173	Less than 2.0% of mass 174	0.8	(0.91)1
174	50.0 - 100.0% of mass 95	87	
175	5.0 - 9.0% of mass 174	6.4	(7.38)1
176	95.0 - 101% of mass 174	83.2	(95.64)1
177	5.0 - 9.0% of mass 176	5.7	(6.82)2

1-Value is % of mass 174

2-Value is % of mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1147383	200PPT	200PPT.D	01/25/13	0719
2	STD1147402	500PPT	500PPT.D	01/25/13	0741
3	STD1147382	1PPB	1PPB.D	01/25/13	0804
4	STD1147385	2PPB	2PPB.D	01/25/13	0826
5	STD1147404	5PPB	5PPB.D	01/25/13	0849
6	STD1147381	10PPB	10PPB.D	01/25/13	0911
7	STD1147384	20PPB	20PPB.D	01/25/13	0934
8	STD1147403	50PPB	50PPB.D	01/25/13	0956
9	STD1147406	80PPB	80PPB.D	01/25/13	1041
10	STD1147405	60PPB	60PPBR1.D	01/25/13	1251
11	SSC1147407	SEC13	SEC13.D	01/25/13	1336

5

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: BFB12.D BFB Injection Date: 01/25/13

Instrument ID: VMS01 BFB Injection Time: 1417

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	15.8	
75	30.0 - 60.0% of mass 95	44.2	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.7	(0.84)1
174	50.0 - 100.0% of mass 95	87.6	
175	5.0 - 9.0% of mass 174	6.1	(6.97)1
176	95.0 - 101% of mass 174	84.8	(96.86)1
177	5.0 - 9.0% of mass 176	5.6	(6.66)2

1-Value is % of mass 174

2-Value is % of mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1147377	012513CCV12	50CCV12.D	01/25/13	1547
2	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609
3	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632
4	012513BLK12	012513BLK12	BLK12.D	01/25/13	1739
5	Q3-TFS-MW-01	350800601	800601.D	01/25/13	1802
6	Q3-TFS-MW-8D	350800602	800602.D	01/25/13	1824
7	Q3-TFS-MW-05	350800603	800603.D	01/25/13	1847
8	Q3-TFS-MW-04	350800604	800604.D	01/25/13	1909
9	Q3-TFS-TB-01	350800605	800605.D	01/25/13	1932
10	Q3-TFS-MW-11	350800606	800606.D	01/25/13	1954
11	Q3-TFS-MW-12	350800607	800607.D	01/25/13	2017
12	Q3-TFS-MW-15	350800608	800608.D	01/25/13	2039
13	Q3-TFS-MW-15-FD	350800609	800609.D	01/25/13	2102
14	Q3-TFS-MW-16	350800610	800610.D	01/25/13	2125

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID (Standard): 50PPB.D Date Analyzed: 1/25/2013

Instrument ID: VMS01 Time Analyzed: 9:56

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) W Heated Purge: (Y/N) No

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	2373514		6.62	1928146		9.15	1043833		10.54
	UPPER LIMIT	4747028		7.12	3856292		9.65	2087666		11.04
	LOWER LIMIT	1186757		6.12	964073		8.65	521916.5		10.04
	EPA SAMPLE NO.									
1	012513LCS11	2616634		6.62	2057148		9.15	1095730		10.54
2	012513LCS11D	2580648		6.62	2038113		9.15	1079724		10.54
3	012513BLK12	2607277		6.62	2051536		9.15	1029006		10.54
4	Q3-TFS-MW-01	2343705		6.62	1856688		9.15	971315		10.54
5	Q3-TFS-MW-8D	2361619		6.62	1857419		9.15	946918		10.54
6	Q3-TFS-MW-05	2475745		6.62	1875251		9.15	960983		10.54
7	Q3-TFS-MW-04	2353718		6.62	1883831		9.15	1022311		10.54
8	Q3-TFS-TB-01	2377623		6.62	1881174		9.15	956732		10.54
9	Q3-TFS-MW-11	2424415		6.62	1897285		9.15	975880		10.54
10	Q3-TFS-MW-12	2351959		6.62	1831523		9.15	934153		10.54
11	Q3-TFS-MW-15	2402419		6.62	1965322		9.15	1027158		10.54
12	Q3-TFS-MW-15-FD	2522579		6.62	2034170		9.15	1078330		10.54
13	Q3-TFS-MW-16	2467078		6.62	1936160		9.15	986482		10.54

IS1 = Fluorobenzene

IS2 = Chlorobenzene-d5

IS3 = 1,4-Dichlorobenzene-d4

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

310113 1529

FORM VIII

8

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: DB-624 ID: 0.18 (mm) Init. Calib. Date: 01/25/13

Instrument ID: VMS01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 5.88 S2 : 8.12 S3 : 9.88 S4 : 6.25

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	012513BFB11	012513BFB11	BFB11.D	01/25/13	0644				
2	STD1147383	200PPT	200PPT.D	01/25/13	0719				6.26
3	STD1147402	500PPT	500PPT.D	01/25/13	0741				6.25
4	STD1147382	1PPB	1PPB.D	01/25/13	0804				
5	STD1147385	2PPB	2PPB.D	01/25/13	0826				
6	STD1147404	5PPB	5PPB.D	01/25/13	0849	5.88	8.12	9.88	6.25
7	STD1147381	10PPB	10PPB.D	01/25/13	0911	5.88	8.12	9.88	6.25
8	STD1147384	20PPB	20PPB.D	01/25/13	0934	5.88	8.12	9.88	6.25
9	STD1147403	50PPB	50PPB.D	01/25/13	0956	5.88	8.12	9.88	6.25
10	STD1147406	80PPB	80PPB.D	01/25/13	1041				
11	STD1147405	60PPB	60PPBR1.D	01/25/13	1251	5.88	8.12	9.88	6.25
12	SSC1147407	SEC13	SEC13.D	01/25/13	1336	5.87	8.12	9.88	6.25
13	012513BFB12	012513BFB12	BFB12.D	01/25/13	1417				
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1439				
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1524				
16	CCV1147377	012513CCV12	50CCV12.D	01/25/13	1547	5.88	8.12	9.88	6.25
17	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609	5.88	8.12	9.88	6.25
18	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632	5.88	8.12	9.88	6.25
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1654				
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1717				
21	012513BLK12	012513BLK12	BLK12.D	01/25/13	1739	5.88	8.12	9.88	6.25
22	Q3-TFS-MW-01	350800601	800601.D	01/25/13	1802	5.88	8.12	9.88	6.25
23	Q3-TFS-MW-8D	350800602	800602.D	01/25/13	1824	5.88	8.12	9.88	6.25
24	Q3-TFS-MW-05	350800603	800603.D	01/25/13	1847	5.88	8.12	9.88	6.25
25	Q3-TFS-MW-04	350800604	800604.D	01/25/13	1909	5.88	8.12	9.88	6.25
26	Q3-TFS-TB-01	350800605	800605.D	01/25/13	1932	5.88	8.12	9.88	6.25

QC LIMITS

S1	=	Dibromofluoromethane	(+/- 0.4 MINUTES)
S2	=	Toluene-d8	(+/- 0.4 MINUTES)
S3	=	4-Bromofluorobenzene	(+/- 0.63 MINUTES)
S4	=	1,2-Dichloroethane-d4	(+/- 0.4 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

Page 1 of 2

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: DB-624 ID: 0.18 (mm) Init. Calib. Date: 01/25/13

Instrument ID: VMS01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 5.88 S2 : 8.12 S3 : 9.88 S4 : 6.25

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
27	Q3-TFS-MW-11	350800606	800606.D	01/25/13	1954	5.88	8.12	9.88	6.25
28	Q3-TFS-MW-12	350800607	800607.D	01/25/13	2017	5.88	8.12	9.88	6.25
29	Q3-TFS-MW-15	350800608	800608.D	01/25/13	2039	5.88	8.12	9.88	6.25
30	Q3-TFS-MW-15-FD	350800609	800609.D	01/25/13	2102	5.88	8.12	9.88	6.25
31	Q3-TFS-MW-16	350800610	800610.D	01/25/13	2125	5.88	8.12	9.88	6.25
32	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2148				
33	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2210				
34	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2233				
35	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2256				
36	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2318				
37	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2341				

			QC LIMITS
S1	=	Dibromofluoromethane	(+/- 0.4 MINUTES)
S2	=	Toluene-d8	(+/- 0.4 MINUTES)
S3	=	4-Bromofluorobenzene	(+/- 0.63 MINUTES)
S4	=	1,2-Dichloroethane-d4	(+/- 0.4 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	18	90.0			30 - 155
Chloromethane	20	18.4	92.0			40 - 125
Vinyl chloride	20	20.8	104.0			50 - 145
Bromomethane	20	25.3	126.0			30 - 145
Chloroethane	20	20.3	102.0			60 - 135
Trichlorofluoromethane	20	20.4	102.0			60 - 145
1,1-Dichloroethene	20	19.4	97.0			70 - 130
Acrolein	40	41.9	105.0			31 - 148
Methyl iodide	20	19.1	95.5			75 - 152
Carbon disulfide	20	20.4	102.0			35 - 160
Methylene chloride	20	21.1	106.0			55 - 140
trans-1,2-Dichloroethene	20	20.1	100.0			60 - 140
Acrylonitrile	40	39.6	99.0			55 - 126
1,1-Dichloroethane	20	20.7	104.0			70 - 135
Acetone	40	31.8	79.5			40 - 140
2-Butanone	40	38.5	96.2			30 - 150
Chloroform	20	20.3	102.0			65 - 135
1,1,1-Trichloroethane	20	21.4	107.0			65 - 130
Carbon tetrachloride	20	21.3	106.0			65 - 140
Benzene	20	21.2	106.0			80 - 120
1,2-Dichloroethane	20	19.6	98.0			70 - 130
Trichloroethene	20	20.6	103.0			70 - 125
Vinyl acetate	20	21.7	108.0			77 - 150
1,2-Dichloropropane	20	20.7	104.0			75 - 125
Dibromomethane	20	20	100.0			75 - 125
Bromodichloromethane	20	20.3	102.0			75 - 120
cis-1,3-Dichloropropene	20	19.5	97.5			70 - 130
4-Methyl-2-pentanone	40	43.5	109.0			60 - 135
Toluene	20	22.2	111.0			75 - 120
trans-1,3-Dichloropropene	20	20.6	103.0			55 - 140
Ethyl methacrylate	20	22.1	110.0			73 - 121
1,1,2-Trichloroethane	20	20	100.0			75 - 125

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	20	20.9	104.0			45 - 150
2-Hexanone	40	40.4	101.0			55 - 130
Dibromochloromethane	20	21.4	107.0			60 - 135
1,2-Dibromoethane	20	20.4	102.0			80 - 120
Chlorobenzene	20	20.8	104.0			80 - 120
1,1,1,2-Tetrachloroethane	20	21	105.0			80 - 130
Ethylbenzene	20	21.6	108.0			75 - 125
Styrene	20	22.1	110.0			65 - 135
Bromoform	20	21.1	106.0			70 - 130
1,1,2,2-Tetrachloroethane	20	20.2	101.0			65 - 130
1,2,3-Trichloropropane	20	20.8	104.0			75 - 125
1,2-Dibromo-3-chloropropane	20	21.2	106.0			50 - 130
1,4-Dichloro-2-butene	40	43.1	108.0			68 - 115
Acetonitrile	200	203	102.0			37 - 122
Allyl chloride	20	20.3	102.0			70 - 130
1,4-Dioxane	400	451	113.0			0 - 167
Isobutyl alcohol	400	390	97.5			70 - 130
Methacrylonitrile	200	210	105.0			70 - 130
Methyl methacrylate	20	21	105.0			33 - 172
Propionitrile	200	213	106.0			70 - 130
Chloroprene	20	21.8	109.0			70 - 130
Xylene (total)	60	67.3	112.0			82 - 124

Spike Recovery: 0 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11D

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	17.6	88.0	2.2	20	30 - 155
Chloromethane	20	18.3	91.5	0.5	20	40 - 125
Vinyl chloride	20	19.4	97.0	7.0	20	50 - 145
Bromomethane	20	23.4	117.0	7.8	20	30 - 145
Chloroethane	20	19.1	95.5	6.1	20	60 - 135
Trichlorofluoromethane	20	20.1	100.0	1.5	20	60 - 145
1,1-Dichloroethene	20	19.1	95.5	1.6	20	70 - 130
Acrolein	40	40.2	100.0	4.1	20	31 - 148
Methyl iodide	20	18.6	93.0	2.7	20	75 - 152
Carbon disulfide	20	19.6	98.0	4.0	20	35 - 160
Methylene chloride	20	20.7	104.0	1.9	20	55 - 140
trans-1,2-Dichloroethene	20	19.4	97.0	3.5	20	60 - 140
Acrylonitrile	40	38.1	95.2	3.9	20	55 - 126
1,1-Dichloroethane	20	20.7	104.0	0.0	20	70 - 135
Acetone	40	23.4	58.5	30.4 *	20	40 - 140
2-Butanone	40	33	82.5	15.4	20	30 - 150
Chloroform	20	20.1	100.0	1.0	20	65 - 135
1,1,1-Trichloroethane	20	20.8	104.0	2.8	20	65 - 130
Carbon tetrachloride	20	20.7	104.0	2.9	20	65 - 140
Benzene	20	20.4	102.0	3.8	20	80 - 120
1,2-Dichloroethane	20	19.6	98.0	0.0	20	70 - 130
Trichloroethene	20	20.7	104.0	0.5	20	70 - 125
Vinyl acetate	20	21.4	107.0	1.4	20	77 - 150
1,2-Dichloropropane	20	20.4	102.0	1.5	20	75 - 125
Dibromomethane	20	19.3	96.5	3.6	20	75 - 125
Bromodichloromethane	20	19.9	99.5	2.0	20	75 - 120
cis-1,3-Dichloropropene	20	18.7	93.5	4.2	20	70 - 130
4-Methyl-2-pentanone	40	42.6	106.0	2.1	20	60 - 135
Toluene	20	21.5	108.0	3.2	20	75 - 120
trans-1,3-Dichloropropene	20	19.8	99.0	4.0	20	55 - 140
Ethyl methacrylate	20	21.4	107.0	3.2	20	73 - 121
1,1,2-Trichloroethane	20	20	100.0	0.0	20	75 - 125

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11D

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	20	20.6	103.0	1.4	20	45 - 150
2-Hexanone	40	37.8	94.5	6.6	20	55 - 130
Dibromochloromethane	20	20.9	104.0	2.4	20	60 - 135
1,2-Dibromoethane	20	19.9	99.5	2.5	20	80 - 120
Chlorobenzene	20	20.4	102.0	1.9	20	80 - 120
1,1,1,2-Tetrachloroethane	20	20.5	102.0	2.4	20	80 - 130
Ethylbenzene	20	21.5	108.0	0.5	20	75 - 125
Styrene	20	21.4	107.0	3.2	20	65 - 135
Bromoform	20	20.6	103.0	2.4	20	70 - 130
1,1,2,2-Tetrachloroethane	20	20	100.0	1.0	20	65 - 130
1,2,3-Trichloropropane	20	21.1	106.0	1.4	20	75 - 125
1,2-Dibromo-3-chloropropane	20	21.2	106.0	0.0	20	50 - 130
1,4-Dichloro-2-butene	40	39.7	99.2	8.2	20	68 - 115
Acetonitrile	200	202	101.0	0.5	20	37 - 122
Allyl chloride	20	20.2	101.0	0.5	20	70 - 130
1,4-Dioxane	400	450	112.0	0.2	20	0 - 167
Isobutyl alcohol	400	364	91.0	6.9	20	70 - 130
Methacrylonitrile	200	206	103.0	1.9	20	70 - 130
Methyl methacrylate	20	20.6	103.0	1.9	20	33 - 172
Propionitrile	200	202	101.0	5.3	20	70 - 130
Chloroprene	20	21.3	106.0	2.3	20	70 - 130
Xylene (total)	60	65	108.0	3.5	20	82 - 124

Spike Recovery: 0 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

8260 Standards Data

310113 1529

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF0.2 =200PPT.D RRF0.5 =500PPT.D
RRF1 =1PPB.D RRF2 =2PPB.D RRF5 =5PPB.D

COMPOUND	RRF0.2	RRF0.5	RRF1	RRF2	RRF5	$\overline{RRF}$	%RSD OR R^2	RSD
Dichlorodifluoromethane			0.298	0.313	0.353			
Chloromethane	#		0.401	0.354	0.351		#	
Vinyl chloride	*	0.374	0.290	0.285	0.350		*	
Bromomethane			0.181	0.170	0.167			
Chloroethane			0.246	0.207	0.213			
Trichlorofluoromethane			0.319	0.327	0.384			
1,1-Dichloroethene	*	0.457	0.389	0.355	0.358		*	
Acrolein			0.055	0.056	0.058			
Methyl iodide			0.198	0.211	0.327			
Carbon disulfide			0.798	0.694	0.694			
Methylene chloride			0.515	0.405	0.365			
trans-1,2-Dichloroethene		0.413	0.398	0.341	0.350			
Acrylonitrile			0.151	0.122	0.136			
1,1-Dichloroethane	#		0.475	0.426	0.451		#	
Acetone			0.294	0.208	0.188			
2-Butanone				0.136	0.153			
Chloroform	* 0.433	0.514	0.518	0.466	0.511		*	
1,1,1-Trichloroethane			0.329	0.303	0.333			
Carbon tetrachloride		0.317	0.268	0.258	0.281			
Benzene	1.011	1.104	1.092	0.942	1.027			
1,2-Dichloroethane		0.385	0.355	0.353	0.365			
Trichloroethene		0.310	0.289	0.260	0.297			
Vinyl acetate			0.654	0.586	0.636			
1,2-Dichloropropane	*	0.281	0.300	0.263	0.277		*	
Dibromomethane			0.218	0.198	0.207			
Bromodichloromethane	0.357	0.334	0.366	0.332	0.355			
cis-1,3-Dichloropropene		0.272	0.283	0.292	0.308			
4-Methyl-2-pentanone				0.082	0.092			
Toluene	*	0.629	0.566	0.512	0.611		*	
trans-1,3-Dichloropropene		0.237	0.291	0.239	0.284			
Ethyl methacrylate			0.309	0.247	0.272			
1,1,2-Trichloroethane		0.276	0.294	0.282	0.280			
Tetrachloroethene		0.295	0.295	0.254	0.278			
2-Hexanone				0.213	0.251			

310113 1529

FORM VI

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF0.2 =200PPT.D RRF0.5 =500PPT.D
RRF1 =1PPB.D RRF2 =2PPB.D RRF5 =5PPB.D

COMPOUND	RRF0.2	RRF0.5	RRF1	RRF2	RRF5	$\overline{RRF}$	%RSD OR R^2	RSD
Dibromochloromethane	0.299	0.316	0.347	0.325	0.361			
1,2-Dibromoethane			0.384	0.349	0.368			
Chlorobenzene	#	1.125	1.048	0.954	1.016		#	
1,1,1,2-Tetrachloroethane		0.322	0.323	0.308	0.335			
Ethylbenzene	*	0.491	0.513	0.424	0.474		*	
Styrene			0.842	0.737	0.888			
Bromoform	#		0.233	0.213	0.220		#	
1,1,2,2-Tetrachloroethane	# 0.840	1.098	1.121	0.997	1.008		#	
1,2,3-Trichloropropane			0.272	0.288	0.287			
1,2-Dibromo-3-chloropropane				0.133	0.134			
1,4-Dichloro-2-butene			0.110	0.100	0.108			
Acetonitrile			0.074	0.067	0.067			
Allyl chloride			0.744	0.668	0.673			
1,4-Dioxane			0.001	0.002	0.003			
Isobutyl alcohol				0.004	0.004			
Methacrylonitrile			0.130	0.119	0.130			
Methyl methacrylate			0.172	0.164	0.171			
Propionitrile			0.043	0.038	0.045			
Chloroprene			0.309	0.277	0.284			
o-Xylene		1.153	1.100	0.979	1.116			
p,m-Xylene	0.440	0.591	0.561	0.512	0.564			
Dibromofluoromethane(SURR)					0.331			
Toluene-d8(SURR)					1.071			
4-Bromofluorobenzene(SURR)					0.921			
1,2-Dichloroethane-d4(SURR)					0.075			

310113 1529

FORM VI

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF10 =10PPB.D RRF20 =20PPB.D
RRF50 =50PPB.D RRF60 =60PPBR1.D RRF80 =80PPB.D

COMPOUND		RRF10	RRF20	RRF50	RRF60	RRF80	$\overline{RRF}$	%RSD OR R^2		RSD
Dichlorodifluoromethane		0.325	0.334	0.345	0.293	0.359	0.32746	7.6		
Chloromethane	#	0.328	0.332	0.351	0.309	0.364	0.34889	7.9	#	
Vinyl chloride	*	0.330	0.330	0.347	0.316	0.379	0.33354	10	*	
Bromomethane		0.154	0.157	0.178	0.176	0.199	0.17252	8.3		
Chloroethane		0.209	0.226	0.221	0.194	0.230	0.2183	7.3		
Trichlorofluoromethane		0.353	0.359	0.372	0.337	0.408	0.3574	8.5		
1,1-Dichloroethene	*	0.379	0.364	0.372	0.336	0.389	0.37776	9.1	*	
Acrolein		0.054	0.056	0.056	0.051	0.056	0.05529	3.9		
Methyl iodide		0.382	0.341	0.317	0.291	0.351	0.30224	0.99325		
Carbon disulfide		0.766	0.712	0.740	0.687	0.803	0.73672	6.4		
Methylene chloride		0.385	0.345	0.339	0.314	0.347	0.37685	0.99631		
trans-1,2-Dichloroethene		0.380	0.357	0.362	0.335	0.380	0.3684	7.1		
Acrylonitrile		0.131	0.127	0.128	0.114	0.132	0.13007	8.4		
1,1-Dichloroethane	#	0.529	0.462	0.464	0.433	0.483	0.4654	6.9	#	
Acetone		0.179	0.143	0.147	0.154	0.130	0.18024	0.9912		
2-Butanone		0.170	0.155	0.168	0.133	0.162	0.15386	9.3		
Chloroform	*	0.539	0.493	0.490	0.456	0.511	0.49306	6.6	*	
1,1,1-Trichloroethane		0.370	0.352	0.370	0.347	0.395	0.34983	8.2		
Carbon tetrachloride		0.321	0.306	0.324	0.303	0.345	0.30261	9.4		
Benzene		1.132	1.077	1.101	1.032	1.154	1.06725	6		
1,2-Dichloroethane		0.382	0.344	0.358	0.326	0.362	0.35876	5		
Trichloroethene		0.335	0.294	0.303	0.286	0.318	0.29909	7.1		
Vinyl acetate		0.701	0.688	0.729	0.702	0.777	0.68416	8.6		
1,2-Dichloropropane	*	0.307	0.292	0.292	0.275	0.307	0.28834	5.2	*	
Dibromomethane		0.225	0.206	0.204	0.189	0.212	0.20715	5.3		
Bromodichloromethane		0.385	0.358	0.367	0.343	0.381	0.35775	5		
cis-1,3-Dichloropropene		0.360	0.353	0.396	0.383	0.414	0.33992	0.99779		
4-Methyl-2-pentanone		0.111	0.109	0.121	0.109	0.130	0.10767	0.99586		
Toluene	*	0.703	0.688	0.707	0.667	0.742	0.64719	11.5	*	
trans-1,3-Dichloropropene		0.328	0.336	0.378	0.369	0.359	0.3135	0.99882		
Ethyl methacrylate		0.314	0.322	0.361	0.342	0.391	0.31964	0.99863		
1,1,2-Trichloroethane		0.307	0.284	0.284	0.260	0.291	0.28428	4.6		
Tetrachloroethene		0.300	0.279	0.283	0.277	0.303	0.28483	5.3		
2-Hexanone		0.273	0.257	0.283	0.239	0.281	0.25671	9.9		

310113 1529

FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF10 =10PPB.D RRF20 =20PPB.D
RRF50 =50PPB.D RRF60 =60PPBR1.D RRF80 =80PPB.D

COMPOUND		RRF10	RRF20	RRF50	RRF60	RRF80	$\overline{RRF}$	%RSD OR R^2		RSD
Dibromochloromethane		0.383	0.375	0.381	0.367	0.405	0.35602	9.5		
1,2-Dibromoethane		0.400	0.377	0.377	0.351	0.395	0.37518	5		
Chlorobenzene	#	1.080	1.017	1.017	0.977	1.068	1.03366	5.1	#	
1,1,1,2-Tetrachloroethane		0.333	0.332	0.343	0.328	0.361	0.33172	4.5		
Ethylbenzene	*	0.514	0.509	0.525	0.507	0.554	0.50137	7.2	*	
Styrene		1.033	1.020	1.082	1.043	1.156	0.97507	14.3		
Bromoform	#	0.246	0.245	0.271	0.252	0.287	0.24593	10	#	
1,1,2,2-Tetrachloroethane	#	1.053	0.984	1.015	0.932	1.035	1.00828	8	#	
1,2,3-Trichloropropane		0.299	0.284	0.284	0.255	0.279	0.28108	4.6		
1,2-Dibromo-3-chloropropane		0.137	0.148	0.157	0.147	0.165	0.14573	8.2		
1,4-Dichloro-2-butene		0.125	0.129	0.136	0.124	0.141	0.12138	11.7		
Acetonitrile		0.075	0.071	0.073	0.066	0.075	0.07112	5.7		
Allyl chloride		0.753	0.709	0.732	0.657	0.753	0.71122	5.7		
1,4-Dioxane		0.003	0.003	0.004	0.003	0.004	0.0029	0.99841		
Isobutyl alcohol		0.003	0.003	0.003	0.003	0.003	0.0032	9.2		
Methacrylonitrile		0.143	0.141	0.147	0.130	0.150	0.13628	7.6		
Methyl methacrylate		0.190	0.188	0.209	0.194	0.222	0.18889	10.5		
Propionitrile		0.048	0.046	0.048	0.042	0.050	0.0451	8.1		
Chloroprene		0.337	0.310	0.332	0.317	0.364	0.31622	9		
o-Xylene		1.283	1.224	1.314	1.279	1.412	1.20664	10.9		
p,m-Xylene		0.653	0.635	0.662	0.636	0.704	0.59584	13.2		
==========										=========
Dibromofluoromethane(SURR)		0.278	0.295	0.302	0.278		0.297	7.4		
Toluene-d8(SURR)		0.920	1.040	1.077	1.002		1.02212	6.3		
4-Bromofluorobenzene(SURR)		0.817	0.933	0.893	0.853		0.88331	5.4		
1,2-Dichloroethane-d4(SURR)		0.069	0.071	0.073	0.068		0.0712	4.4		

310113 1529

FORM VI

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1336

CCV ID: SSC1147407 Lab File ID: SEC13.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Dichlorodifluoromethane		0.32746	0.2973	9.2	AVRG	
Chloromethane	#	0.34889	0.31837	8.7	AVRG	#
Vinyl chloride	*	0.33354	0.3225	3.3	AVRG	*
Bromomethane		0.17252	0.18443	6.9	AVRG	
Chloroethane		0.2183	0.19593	10.2	AVRG	
Trichlorofluoromethane		0.3574	0.34351	3.9	AVRG	
1,1-Dichloroethene	*	0.37776	0.3415	9.6	AVRG	*
Acrolein		0.05529	0.04885	11.6	AVRG	
Methyl iodide		50	46.9	6.2	2ORD	
Carbon disulfide		0.73672	0.69837	5.2	AVRG	
Methylene chloride		50	47.4	5.2	LINR	
trans-1,2-Dichloroethene		0.3684	0.3404	7.6	AVRG	
Acrylonitrile		0.13007	0.11892	8.6	AVRG	
1,1-Dichloroethane	#	0.4654	0.43713	6.1	AVRG	#
Acetone		100	91	9.0	2ORD	
2-Butanone		0.15386	0.12458	19.0	AVRG	
Chloroform	*	0.49306	0.45591	7.5	AVRG	*
1,1,1-Trichloroethane		0.34983	0.3511	0.4	AVRG	
Carbon tetrachloride		0.30261	0.30695	1.4	AVRG	
Benzene		1.06725	1.035	3.0	AVRG	
1,2-Dichloroethane		0.35876	0.33108	7.7	AVRG	
Trichloroethene		0.29909	0.28575	4.5	AVRG	
Vinyl acetate		0.68416	0.70004	2.3	AVRG	
1,2-Dichloropropane	*	0.28834	0.27715	3.9	AVRG	*
Dibromomethane		0.20715	0.19151	7.6	AVRG	
Bromodichloromethane		0.35775	0.34477	3.6	AVRG	
cis-1,3-Dichloropropene		50	47.2	5.6	LINR	
4-Methyl-2-pentanone		100	104	4.0	2ORD	
Toluene	*	0.64719	0.66705	3.1	AVRG	*
trans-1,3-Dichloropropene		50	49.9	0.2	LINR	
Ethyl methacrylate		50	49.4	1.2	2ORD	
1,1,2-Trichloroethane		0.28428	0.26301	7.5	AVRG	
Tetrachloroethene		0.28483	0.26677	6.3	AVRG	
2-Hexanone		0.25671	0.23461	8.6	AVRG	
Dibromochloromethane		0.35602	0.35639	0.1	AVRG	
1,2-Dibromoethane		0.37518	0.35218	6.1	AVRG	

310113 1529

FORM VII

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1336

CCV ID: SSC1147407 Lab File ID: SEC13.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Chlorobenzene	#	1.03366	0.95768	7.4	AVRG	#
1,1,1,2-Tetrachloroethane		0.33172	0.32087	3.3	AVRG	
Ethylbenzene	*	0.50137	0.48993	2.3	AVRG	*
Styrene		0.97507	1.013	3.9	AVRG	
Bromoform	#	0.24593	0.24523	0.3	AVRG	#
1,1,2,2-Tetrachloroethane	#	1.00828	0.92449	8.3	AVRG	#
1,2,3-Trichloropropane		0.28108	0.25707	8.5	AVRG	
1,2-Dibromo-3-chloropropane		0.14573	0.14432	1.0	AVRG	
1,4-Dichloro-2-butene		0.12138	0.10513	13.4	AVRG	
Acetonitrile		0.07112	0.0666	6.4	AVRG	
Allyl chloride		0.71122	0.66603	6.4	AVRG	
1,4-Dioxane		1000	966	3.4	2ORD	
Isobutyl alcohol		0.0032	0.00287	10.3	AVRG	
Methacrylonitrile		0.13628	0.13179	3.3	AVRG	
Methyl methacrylate		0.18889	0.1899	0.5	AVRG	
Propionitrile		0.0451	0.04319	4.2	AVRG	
Chloroprene		0.31622	0.31988	1.2	AVRG	
o-Xylene		1.20664	1.231	2.0	AVRG	
p,m-Xylene		0.59584	0.61322	2.9	AVRG	
==========						
Dibromofluoromethane(SURR)		0.297	0.30369	2.3	AVRG	
Toluene-d8(SURR)		1.02212	1.083	6.0	AVRG	
4-Bromofluorobenzene(SURR)		0.88331	0.9018	2.1	AVRG	
1,2-Dichloroethane-d4(SURR)		0.0712	0.07266	2.1	AVRG	

310113 1529

FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1547

CCV ID: CCV1147377 Lab File ID: 50CCV12.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Dichlorodifluoromethane		0.32746	0.28749	12.2	AVRG	
Chloromethane	#	0.34889	0.31963	8.4	AVRG	#
Vinyl chloride	*	0.33354	0.32679	2.0	AVRG	*
Bromomethane		0.17252	0.19554	13.3	AVRG	
Chloroethane		0.2183	0.20249	7.2	AVRG	
Trichlorofluoromethane		0.3574	0.34949	2.2	AVRG	
1,1-Dichloroethene	*	0.37776	0.36186	4.2	AVRG	*
Acrolein		0.05529	0.05666	2.5	AVRG	
Methyl iodide		50	53	6.0	2ORD	
Carbon disulfide		0.73672	0.7333	0.5	AVRG	
Methylene chloride		50	51	2.0	LINR	
trans-1,2-Dichloroethene		0.3684	0.36687	0.4	AVRG	
Acrylonitrile		0.13007	0.1313	0.9	AVRG	
1,1-Dichloroethane	#	0.4654	0.47332	1.7	AVRG	#
Acetone		100	94.9	5.1	2ORD	
2-Butanone		0.15386	0.16661	8.3	AVRG	
Chloroform	*	0.49306	0.50302	2.0	AVRG	*
1,1,1-Trichloroethane		0.34983	0.37824	8.1	AVRG	
Carbon tetrachloride		0.30261	0.32513	7.4	AVRG	
Benzene		1.06725	1.133	6.2	AVRG	
1,2-Dichloroethane		0.35876	0.36145	0.7	AVRG	
Trichloroethene		0.29909	0.31131	4.1	AVRG	
Vinyl acetate		0.68416	0.76562	11.9	AVRG	
1,2-Dichloropropane	*	0.28834	0.30637	6.3	AVRG	*
Dibromomethane		0.20715	0.21096	1.8	AVRG	
Bromodichloromethane		0.35775	0.38048	6.4	AVRG	
cis-1,3-Dichloropropene		50	51.7	3.4	LINR	
4-Methyl-2-pentanone		100	115	15.0	2ORD	
Toluene	*	0.64719	0.73516	13.6	AVRG	*
trans-1,3-Dichloropropene		50	58.1	16.2	LINR	
Ethyl methacrylate		50	56.2	12.4	2ORD	
1,1,2-Trichloroethane		0.28428	0.29804	4.8	AVRG	
Tetrachloroethene		0.28483	0.29445	3.4	AVRG	
2-Hexanone		0.25671	0.29241	13.9	AVRG	
Dibromochloromethane		0.35602	0.41319	16.1	AVRG	
1,2-Dibromoethane		0.37518	0.4119	9.8	AVRG	

310113 1529

FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1547

CCV ID: CCV1147377 Lab File ID: 50CCV12.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Chlorobenzene	#	1.03366	1.075	4.0	AVRG	#
1,1,1,2-Tetrachloroethane		0.33172	0.36725	10.7	AVRG	
Ethylbenzene	*	0.50137	0.54794	9.3	AVRG	*
Styrene		0.97507	1.154	18.4	AVRG	
Bromoform	#	0.24593	0.29011	18.0	AVRG	#
1,1,2,2-Tetrachloroethane	#	1.00828	1.067	5.8	AVRG	#
1,2,3-Trichloropropane		0.28108	0.2993	6.5	AVRG	
1,2-Dibromo-3-chloropropane		0.14573	0.16801	15.3	AVRG	
1,4-Dichloro-2-butene		0.12138	0.12038	0.8	AVRG	
Acetonitrile		0.07112	0.07481	5.2	AVRG	
Allyl chloride		0.71122	0.74807	5.2	AVRG	
1,4-Dioxane		1000	1080	8.0	2ORD	
Isobutyl alcohol		0.0032	0.00316	1.2	AVRG	
Methacrylonitrile		0.13628	0.15299	12.3	AVRG	
Methyl methacrylate		0.18889	0.21786	15.3	AVRG	
Propionitrile		0.0451	0.05172	14.7	AVRG	
Chloroprene		0.31622	0.33842	7.0	AVRG	
o-Xylene		1.20664	1.403	16.3	AVRG	
p,m-Xylene		0.59584	0.69543	16.7	AVRG	
==========						
Dibromofluoromethane(SURR)		0.297	0.29422	0.9	AVRG	
Toluene-d8(SURR)		1.02212	1.059	3.6	AVRG	
4-Bromofluorobenzene(SURR)		0.88331	0.89592	1.4	AVRG	
1,2-Dichloroethane-d4(SURR)		0.0712	0.07277	2.2	AVRG	

310113 1529

FORM VII

8270 SIM Semi-Volatile Organics

310113 1529

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8270D-SIM

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8270 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

An LCS/LCSD set was analyzed. All percent recovery and relative percent difference (RPD) criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

No spikes requested by client.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

Sample Q3-TFS-MW-04 was analyzed full, but internal standard criteria were not met due to large amounts of non-target compounds. The undiluted run is not reported. The sample was re-analyzed and is reported at a 10X dilution.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: DATE: 01/25/2013

SEMI-VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Method: 8270 SIM

EPA Sample No	Lab Sample ID
Q3-TFS-MW-01	350800601
Q3-TFS-MW-8D	350800602
Q3-TFS-MW-05	350800603
Q3-TFS-MW-04	350800604
Q3-TFS-MW-11	350800606
Q3-TFS-MW-12	350800607
Q3-TFS-MW-15	350800608
Q3-TFS-MW-15-FD	350800609
Q3-TFS-MW-16	350800610

310113 1529

8270 SIM Sample Data

310113 1529

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 006-01.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0008

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.11		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.15		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.038	J	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.053		0.02	0.04	0.05
86-73-7	Fluorene	0.14		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.032	J	0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 006-02.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0032

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 006-03.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0056

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.49		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.22		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.031	J	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.052		0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.034	J	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.066		0.02	0.04	0.05
86-73-7	Fluorene	0.054		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.068		0.02	0.04	0.05
91-20-3	Naphthalene	0.26		0.02	0.04	0.05
85-01-8	Phenanthrene	0.035	J	0.02	0.04	0.05
129-00-0	Pyrene	0.053		0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 1314

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	54.4		0.2	0.4	0.5
91-57-6	2-Methylnaphthalene	14.5		0.2	0.4	0.5
83-32-9	Acenaphthene	0.43	J	0.2	0.4	0.5
208-96-8	Acenaphthylene	0.29	J	0.2	0.4	0.5
120-12-7	Anthracene	0.4	U	0.2	0.4	0.5
56-55-3	Benzo(a)anthracene	0.4	U	0.2	0.4	0.5
50-32-8	Benzo(a)pyrene	0.48	J	0.2	0.4	0.5
205-99-2	Benzo(b)fluoranthene	0.4	U	0.2	0.4	0.5
191-24-2	Benzo(g,h,i)perylene	0.4	U	0.2	0.4	0.5
207-08-9	Benzo(k)fluoranthene	0.4	U	0.2	0.4	0.5
218-01-9	Chrysene	0.4	U	0.2	0.4	0.5
53-70-3	Dibenzo(a,h)anthracene	0.76		0.2	0.4	0.4
206-44-0	Fluoranthene	0.4	U	0.2	0.4	0.5
86-73-7	Fluorene	0.55		0.2	0.4	0.5
193-39-5	Indeno(1,2,3-cd)pyrene	0.64		0.2	0.4	0.5
91-20-3	Naphthalene	8.8		0.2	0.4	0.5
85-01-8	Phenanthrene	0.4	U	0.2	0.4	0.5
129-00-0	Pyrene	0.4	U	0.2	0.4	0.5

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 006-06.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0143

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.37		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.038	J	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.052		0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.039	J	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.086		0.02	0.04	0.04
206-44-0	Fluoranthene	0.028	J	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.073		0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 006-07.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0206

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 006-08.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0230

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	9.7		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	2.6		0.02	0.04	0.05
83-32-9	Acenaphthene	2.1		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.1		0.02	0.04	0.05
120-12-7	Anthracene	0.54		0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.14		0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.11		0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	1.3		0.02	0.04	0.05
86-73-7	Fluorene	2.8		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	7.4		0.02	0.04	0.05
85-01-8	Phenanthrene	2.7		0.02	0.04	0.05
129-00-0	Pyrene	0.95		0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 006-09.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0253

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	8.8		0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	2.2		0.02	0.04	0.05
83-32-9	Acenaphthene	2.2		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.13		0.02	0.04	0.05
120-12-7	Anthracene	0.6		0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.18		0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.055		0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.043	J	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.14		0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	1.5		0.02	0.04	0.05
86-73-7	Fluorene	3		0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	6.9		0.02	0.04	0.05
85-01-8	Phenanthrene	3		0.02	0.04	0.05
129-00-0	Pyrene	1.1		0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 006-10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/19/13 Time: 0317

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.032	J	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

8270 SIM QC Summary

310113 1529

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

158973MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 158973MB Lab File ID: 12048MB.D

Sample wt/vol: 1000 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2124

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

4

SEMI-VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

158973MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID: 12048MB.D Lab Sample ID: 158973MB

Instrument ID: SMSD01 Date Extracted: 01/18/13

Matrix: WATER Date Analyzed: 01/18/13

Level:(low/med) LOW Time Analyzed: 2124

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	158974LCS	158974LCS	12048LCS.D	01/18/13	2147
2	158975LCSD	158975LCSD	12048LCD.D	01/18/13	2211
3	Q3-TFS-MW-01	350800601	006-01.D	01/19/13	0008
4	Q3-TFS-MW-8D	350800602	006-02.D	01/19/13	0032
5	Q3-TFS-MW-05	350800603	006-03.D	01/19/13	0056
6	Q3-TFS-MW-11	350800606	006-06.D	01/19/13	0143
7	Q3-TFS-MW-12	350800607	006-07.D	01/19/13	0206
8	Q3-TFS-MW-15	350800608	006-08.D	01/19/13	0230
9	Q3-TFS-MW-15-FD	350800609	006-09.D	01/19/13	0253
10	Q3-TFS-MW-16	350800610	006-10.D	01/19/13	0317
11	Q3-TFS-MW-04	350800604	00604D10.D	01/21/13	1314

COMMENTS:

Page 1 of 1

310113 1529

Form IV

2A

WATER SEMI-VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508006

Column(1): HPMS-5 ID: 0.25 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
158973MB	94.0	96.0					0
158974LCS	90.0	92.0					0
158975LCSD	98.0	104.0					0
Q3-TFS-MW-01	93.5	69.7					0
Q3-TFS-MW-04	91.5	71.6					0
Q3-TFS-MW-05	89.6	79.6					0
Q3-TFS-MW-11	93.5	79.6					0
Q3-TFS-MW-12	104.0	95.5					0
Q3-TFS-MW-15	91.5	61.7					0
Q3-TFS-MW-15-FD	95.5	69.7					0
Q3-TFS-MW-16	71.6	69.7					0
Q3-TFS-MW-8D	49.8	45.8					0

Control Limits

S1	=	p-Terphenyl-d14	33 - 141
S2	=	2-Fluorobiphenyl	43 - 116

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

310113 1529

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: DFTPP1.D DFTPP Injection Date: 01/18/13

Instrument ID: SMSD01 DFTPP Injection Time: 1646

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	29.9	
68	Less than 2.0% of mass 69	0	(0)1
69	Mass 69 relative abundance	40.3	
70	Less than 2.0% of mass 69	0.3	(0.84)1
127	10.0 - 80.0% of mass 198	43.8	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.9	
275	10.0 - 60.0% of mass 198	29.2	
365	Greater than 1.0% of mass 198	3.4	
441	0.0 - 24.0% of mass 442	14.8	(15.71)2
442	Greater than 50.0% of mass 198	94.5	
443	15.0 - 24.0% of mass 442	17.8	(18.83)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1146383	48042	SIMCAL10.D	01/18/13	1705
2	STD1146391	48043	SIMCAL9.D	01/18/13	1729
3	STD1146390	48044	SIMCAL8.D	01/18/13	1752
4	STD1146389	48045	SIMCAL7.D	01/18/13	1816
5	STD1146388	48046	SIMCAL6.D	01/18/13	1839
6	STD1146387	48047	SIMCAL5.D	01/18/13	1903
7	STD1146386	48048	SIMCAL4.D	01/18/13	1926
8	STD1146385	48049	SIMCAL3.D	01/18/13	1950
9	STD1146384	48050	SIMCAL2.D	01/18/13	2013
10	STD1146382	48051	SIMCAL1.D	01/18/13	2037
11	CCV1146393	48052	SIMSEC.D	01/18/13	2100
12	158973MB	158973MB	12048MB.D	01/18/13	2124
13	158974LCS	158974LCS	12048LCS.D	01/18/13	2147
14	158975LCSD	158975LCSD	12048LCD.D	01/18/13	2211
15	Q3-TFS-MW-01	350800601	006-01.D	01/19/13	0008
16	Q3-TFS-MW-8D	350800602	006-02.D	01/19/13	0032
17	Q3-TFS-MW-05	350800603	006-03.D	01/19/13	0056
18	Q3-TFS-MW-11	350800606	006-06.D	01/19/13	0143
19	Q3-TFS-MW-12	350800607	006-07.D	01/19/13	0206

310113 1529

FORM V

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: DFTPP1.D DFTPP Injection Date: 01/18/13

Instrument ID: SMSD01 DFTPP Injection Time: 1646

GC Column: HPMS-5 ID: 0.25 (mm)

20	Q3-TFS-MW-15	350800608	006-08.D	01/19/13	0230
21	Q3-TFS-MW-15-FD	350800609	006-09.D	01/19/13	0253
22	Q3-TFS-MW-16	350800610	006-10.D	01/19/13	0317

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: DFTPP1.D DFTPP Injection Date: 01/21/13

Instrument ID: SMSD01 DFTPP Injection Time: 1110

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	30.3	
68	Less than 2.0% of mass 69	0	(0)1
69	Mass 69 relative abundance	41.4	
70	Less than 2.0% of mass 69	0.3	(0.64)1
127	10.0 - 80.0% of mass 198	45	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	7.1	
275	10.0 - 60.0% of mass 198	29	
365	Greater than 1.0% of mass 198	3.4	
441	0.0 - 24.0% of mass 442	13.2	(15.94)2
442	Greater than 50.0% of mass 198	83.1	
443	15.0 - 24.0% of mass 442	16.1	(19.42)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1146392	48046	SIMCCV1.D	01/21/13	1130
2	Q3-TFS-MW-04	350800604	00604D10.D	01/21/13	1314

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID (Standard): SIMCAL6.D Date Analyzed: 1/18/2013

Instrument ID: SMSD01 Time Analyzed: 18:39

GC Column: HPMS-5 ID: 0.25 (mm)

		IS1 AREA #	RT	IS2 AREA #	RT	IS3 AREA #	RT
	MID CAL STD	20865	3.48	68653	4.63	35577	6.31
	UPPER LIMIT	41730	3.98	137306	5.13	71154	6.81
	LOWER LIMIT	10432.5	2.98	34326.5	4.13	17788.5	5.81
	EPA SAMPLE NO.						
1	158973MB	17907	3.48	54072	4.63	28934	6.31
2	158974LCS	17991	3.48	59355	4.63	31986	6.31
3	158975LCSD	19164	3.48	61239	4.63	32701	6.31
4	Q3-TFS-MW-01	21283	3.47	66741	4.63	40920	6.31
5	Q3-TFS-MW-8D	20036	3.48	68334	4.63	37353	6.31
6	Q3-TFS-MW-05	21763	3.48	67681	4.63	38904	6.31
7	Q3-TFS-MW-11	22843	3.47	75380	4.63	44336	6.31
8	Q3-TFS-MW-12	20721	3.48	64734	4.63	35764	6.31
9	Q3-TFS-MW-15	22395	3.47	75488	4.64	50883	6.31
10	Q3-TFS-MW-15-FD	23774	3.47	82915	4.64	54497	6.31
11	Q3-TFS-MW-16	21541	3.48	71223	4.63	39142	6.31
12	Q3-TFS-MW-04	19937	3.48	60220	4.63	35147	6.31

IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

310113 1529

FORM VIII

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID (Standard): SIMCAL6.D Date Analyzed: 1/18/2013

Instrument ID: SMSD01 Time Analyzed: 18:39

GC Column: HPMS-5 ID: 0.25 (mm)

		IS4 AREA	#	RT	IS5 AREA	#	RT	IS6 AREA	#	RT
	MID CAL STD	81802		7.74	102176		10.32	69606		11.61
	UPPER LIMIT	163604		8.24	204352		10.82	139212		12.11
	LOWER LIMIT	40901		7.24	51088		9.82	34803		11.11
	EPA SAMPLE NO.									
1	158973MB	71520		7.74	88221		10.32	61123		11.61
2	158974LCS	76980		7.74	97079		10.32	70363		11.61
3	158975LCSD	77585		7.74	96759		10.32	70551		11.61
4	Q3-TFS-MW-01	97965		7.74	114585		10.32	87060		11.61
5	Q3-TFS-MW-8D	90496		7.74	114074		10.32	87145		11.61
6	Q3-TFS-MW-05	95554		7.74	113972		10.32	89190		11.61
7	Q3-TFS-MW-11	105802		7.74	123123		10.32	94288		11.61
8	Q3-TFS-MW-12	90172		7.74	103628		10.32	89847		11.61
9	Q3-TFS-MW-15	116640		7.75	124984		10.32	99648		11.61
10	Q3-TFS-MW-15-FD	122143		7.75	128764		10.32	100280		11.61
11	Q3-TFS-MW-16	97459		7.74	121842		10.32	96134		11.61
12	Q3-TFS-MW-04	85698		7.74	93252		10.32	73736		11.61

IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-d12

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

310113 1529

FORM VIII

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/18/13

Instrument ID: SMSD01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 9.31 S2 : 5.68 S3 : S4 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	DFTPP1	47701	DFTPP1.D	01/18/13	1646				
2	STD1146383	48042	SIMCAL10.D	01/18/13	1705	9.31	5.67		
3	STD1146391	48043	SIMCAL9.D	01/18/13	1729	9.31	5.67		
4	STD1146390	48044	SIMCAL8.D	01/18/13	1752	9.31	5.68		
5	STD1146389	48045	SIMCAL7.D	01/18/13	1816	9.31	5.68		
6	STD1146388	48046	SIMCAL6.D	01/18/13	1839	9.31	5.68		
7	STD1146387	48047	SIMCAL5.D	01/18/13	1903	9.32	5.69		
8	STD1146386	48048	SIMCAL4.D	01/18/13	1926	9.32	5.69		
9	STD1146385	48049	SIMCAL3.D	01/18/13	1950	9.33	5.69		
10	STD1146384	48050	SIMCAL2.D	01/18/13	2013	9.33	5.7		
11	STD1146382	48051	SIMCAL1.D	01/18/13	2037	9.34	5.72		
12	CCV1146393	48052	SIMSEC.D	01/18/13	2100	9.31	5.68		
13	158973MB	158973MB	12048MB.D	01/18/13	2124	9.31	5.68		
14	158974LCS	158974LCS	12048LCS.D	01/18/13	2147	9.31	5.68		
15	158975LCSD	158975LCSD	12048LCD.D	01/18/13	2211	9.31	5.68		
16	Q3-TFS-MW-01	350800601	006-01.D	01/19/13	0008	9.31	5.68		
17	Q3-TFS-MW-8D	350800602	006-02.D	01/19/13	0032	9.31	5.68		
18	Q3-TFS-MW-05	350800603	006-03.D	01/19/13	0056	9.31	5.68		
19	Q3-TFS-MW-11	350800606	006-06.D	01/19/13	0143	9.31	5.68		
20	Q3-TFS-MW-12	350800607	006-07.D	01/19/13	0206	9.31	5.68		
21	Q3-TFS-MW-15	350800608	006-08.D	01/19/13	0230	9.31	5.68		
22	Q3-TFS-MW-15-FD	350800609	006-09.D	01/19/13	0253	9.31	5.68		
23	Q3-TFS-MW-16	350800610	006-10.D	01/19/13	0317	9.31	5.68		
24	DFTPP1	47701	DFTPP1.D	01/21/13	1110				
25	CCV1146392	48046	SIMCCV1.D	01/21/13	1130	9.31	5.68		
26	Q3-TFS-MW-04	350800604	00604D10.D	01/21/13	1314	9.32	5.68		

QC LIMITS

S1 = p-Terphenyl-d14 (+/- 0.62 MINUTES)
S2 = 2-Fluorobiphenyl (+/- 0.38 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

Page 1 of 1

310113 1529

FORM VIII

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 158974LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
1-Methylnaphthalene	0.5	0.42	84.0			68 - 115
2-Methylnaphthalene	0.5	0.41	82.0			47 - 121
Acenaphthene	0.5	0.4	80.0			64 - 110
Acenaphthylene	0.5	0.4	80.0			45 - 115
Anthracene	0.5	0.42	84.0			61 - 108
Benzo(a)anthracene	0.5	0.44	88.0			53 - 110
Benzo(a)pyrene	0.5	0.37	74.0			55 - 109
Benzo(b)fluoranthene	0.5	0.36	72.0			65 - 110
Benzo(g,h,i)perylene	0.5	0.4	80.0			68 - 115
Benzo(k)fluoranthene	0.5	0.4	80.0			70 - 111
Chrysene	0.5	0.4	80.0			71 - 115
Dibenzo(a,h)anthracene	0.5	0.41	82.0			60 - 104
Fluoranthene	0.5	0.42	84.0			63 - 114
Fluorene	0.5	0.42	84.0			59 - 120
Indeno(1,2,3-cd)pyrene	0.5	0.4	80.0			66 - 110
Naphthalene	0.5	0.44	88.0			68 - 125
Phenanthrene	0.5	0.41	82.0			31 - 147
Pyrene	0.5	0.39	78.0			59 - 120

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 158975LCSD

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
1-Methylnaphthalene	0.5	0.47	94.0	11.2	20	68 - 115
2-Methylnaphthalene	0.5	0.45	90.0	9.3	20	47 - 121
Acenaphthene	0.5	0.45	90.0	11.8	20	64 - 110
Acenaphthylene	0.5	0.46	92.0	14.0	20	45 - 115
Anthracene	0.5	0.46	92.0	9.1	20	61 - 108
Benzo(a)anthracene	0.5	0.5	100.0	12.8	20	53 - 110
Benzo(a)pyrene	0.5	0.45	90.0	19.5	20	55 - 109
Benzo(b)fluoranthene	0.5	0.42	84.0	15.4	20	65 - 110
Benzo(g,h,i)perylene	0.5	0.47	94.0	16.1	20	68 - 115
Benzo(k)fluoranthene	0.5	0.44	88.0	9.5	20	70 - 111
Chrysene	0.5	0.44	88.0	9.5	20	71 - 115
Dibenzo(a,h)anthracene	0.5	0.47	94.0	13.6	20	60 - 104
Fluoranthene	0.5	0.48	96.0	13.3	20	63 - 114
Fluorene	0.5	0.48	96.0	13.3	20	59 - 120
Indeno(1,2,3-cd)pyrene	0.5	0.46	92.0	14.0	20	66 - 110
Naphthalene	0.5	0.48	96.0	8.7	20	68 - 125
Phenanthrene	0.5	0.47	94.0	13.6	20	31 - 147
Pyrene	0.5	0.44	88.0	12.0	20	59 - 120

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1529

Form III

8270 SIM Standards Data

310113 1529

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 1705 End: 2037

Min RRF for SPCC(#) = N/A Max %RSD for CCC(*) = 15 %

LAB FILE ID: RRF0.02 =SIMCAL1.D RRF0.05 =SIMCAL2.D
RRF0.07 =SIMCAL3.D RRF0.1 =SIMCAL4.D RRF0.2 =SIMCAL5.D

COMPOUND	RRF0.02	RRF0.05	RRF0.07	RRF0.1	RRF0.2	$\overline{RRF}$	%RSD OR R^2	RSD
1-Methylnaphthalene	1.076	0.959	0.685	0.764	0.656			
2-Methylnaphthalene	0.356	0.555	0.542	0.619	0.616			
Acenaphthene	* 1.413	1.472	1.413	1.575	1.451		*	
Acenaphthylene	1.483	1.718	1.679	1.906	1.797			
Anthracene	0.797	0.705	0.754	0.885	0.875			
Benzo(a)anthracene	0.765	0.812	0.770	0.874	0.827			
Benzo(a)pyrene	* 0.835	0.937	0.882	1.067	0.988		*	
Benzo(b)fluoranthene	0.695	0.852	0.944	1.066	1.012			
Benzo(g,h,i)perylene	1.004	1.084	1.048	1.254	1.127			
Benzo(k)fluoranthene	1.802	1.852	1.617	1.887	1.655			
Chrysene	1.257	1.277	1.177	1.255	1.131			
Dibenzo(a,h)anthracene	0.747	0.922	0.894	1.057	1.015			
Fluoranthene	* 0.997	1.083	1.059	1.156	1.088		*	
Fluorene	1.255	1.365	1.287	1.519	1.475			
Indeno(1,2,3-cd)pyrene	0.869	1.117	1.100	1.305	1.215			
Naphthalene	0.902	1.045	0.979	1.076	0.996			
Phenanthrene	0.885	0.909	0.925	1.019	0.956			
Pyrene	0.944	0.955	0.904	1.013	0.951			
==========								
p-Terphenyl-d14(SURR)	0.730	0.815	0.755	0.824	0.782			
2-Fluorobiphenyl(SURR)	1.539	1.856	1.645	2.060	2.015			

310113 1529

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 1705 End: 2037

Min RRF for SPCC(#) = N/A Max %RSD for CCC(*) = 15 %

LAB FILE ID: RRF0.5 =SIMCAL6.D RRF0.7 =SIMCAL7.D
RRF1 =SIMCAL8.D RRF5 =SIMCAL9.D RRF10 =SIMCAL10.D

COMPOUND	RRF0.5	RRF0.7	RRF1	RRF5	RRF10	$\overline{RRF}$	%RSD OR R^2	RSD
1-Methylnaphthalene	0.787	0.647	0.693	0.647	0.675	0.75893	0.99955	
2-Methylnaphthalene	0.788	0.662	0.706	0.729	0.740	0.63116	0.9999	
Acenaphthene	* 1.692	1.422	1.525	1.523	1.529	1.50134	5.8 *	
Acenaphthylene	2.107	1.801	1.962	2.063	2.083	1.85975	10.9	
Anthracene	1.024	0.852	0.946	0.969	0.992	0.87984	12	
Benzo(a)anthracene	0.993	0.873	0.935	1.014	1.049	0.89106	11.5	
Benzo(a)pyrene	* 1.249	1.158	1.276	1.342	1.370	1.11041	0.99986 *	17.6294
Benzo(b)fluoranthene	1.384	1.233	1.340	1.437	1.398	1.13601	0.99975	
Benzo(g,h,i)perylene	1.350	1.159	1.259	1.309	1.353	1.19462	10.7	
Benzo(k)fluoranthene	1.865	1.562	1.620	1.614	1.633	1.71074	7.3	
Chrysene	1.303	1.091	1.134	1.052	1.060	1.17364	8	
Dibenzo(a,h)anthracene	1.296	1.111	1.219	1.330	1.423	1.10148	0.99904	
Fluoranthene	* 1.326	1.116	1.164	1.210	1.253	1.14521	8.5 *	
Fluorene	1.716	1.475	1.558	1.623	1.614	1.48856	10.1	
Indeno(1,2,3-cd)pyrene	1.511	1.325	1.456	1.549	1.638	1.30849	0.99935	
Naphthalene	1.190	0.992	1.063	1.055	1.046	1.03444	7.3	
Phenanthrene	1.140	0.936	0.997	1.019	1.017	0.98022	7.6	
Pyrene	1.106	1.013	1.031	1.056	1.013	0.9987	6	
==========								
p-Terphenyl-d14(SURR)	0.923	0.789	0.809	0.784	0.816	0.80267	6.4	
2-Fluorobiphenyl(SURR)	2.317	1.907	2.082	1.540	1.603	1.85654	14.4	

310113 1529

FORM VI

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD01 CalibrationDate: 01/18/13 Time: 2100

CCV ID: CCV1146393 Lab File ID: SIMSEC.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = N/A Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
1-Methylnaphthalene		0.5	0.514	2.8	LINR		
2-Methylnaphthalene		0.5	0.402	19.6	LINR		
Acenaphthene	*	1.50134	1.489	0.8	AVRG	*	
Acenaphthylene		1.85975	1.826	1.8	AVRG		
Anthracene		0.87984	0.8215	6.6	AVRG		
Benzo(a)anthracene		0.89106	0.86493	2.9	AVRG		
Benzo(a)pyrene	*	0.5	0.425	15.0	LINR	*	1.038
Benzo(b)fluoranthene		0.5	0.441	11.8	LINR		
Benzo(g,h,i)perylene		1.19462	1.154	3.4	AVRG		
Benzo(k)fluoranthene		1.71074	1.642	4.0	AVRG		
Chrysene		1.17364	1.2	2.2	AVRG		
Dibenzo(a,h)anthracene		0.5	0.444	11.2	LINR		
Fluoranthene	*	1.14521	1.22	6.5	AVRG	*	
Fluorene		1.48856	1.527	2.6	AVRG		
Indeno(1,2,3-cd)pyrene		0.5	0.449	10.2	LINR		
Naphthalene		1.03444	1.044	0.9	AVRG		
Phenanthrene		0.98022	0.97804	0.2	AVRG		
Pyrene		0.9987	0.96877	3.0	AVRG		
==========							
p-Terphenyl-d14(SURR)		0.80267	0.82819	3.2	AVRG		
2-Fluorobiphenyl(SURR)		1.85654	1.953	5.2	AVRG		

310113 1529

FORM VII

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD01 CalibrationDate: 01/21/13 Time: 1130

CCV ID: CCV1146392 Lab File ID: SIMCCV1.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = N/A Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
1-Methylnaphthalene		0.5	0.558	11.6	LINR		
2-Methylnaphthalene		0.5	0.562	12.4	LINR		
Acenaphthene	*	1.50134	1.636	9.0	AVRG	*	
Acenaphthylene		1.85975	2.146	15.4	AVRG		
Anthracene		0.87984	1.053	19.7	AVRG		
Benzo(a)anthracene		0.89106	1.048	17.6	AVRG		
Benzo(a)pyrene	*	0.5	0.501	0.2	LINR	*	1.245
Benzo(b)fluoranthene		0.5	0.497	0.6	LINR		
Benzo(g,h,i)perylene		1.19462	1.324	10.8	AVRG		
Benzo(k)fluoranthene		1.71074	1.785	4.3	AVRG		
Chrysene		1.17364	1.324	12.8	AVRG		
Dibenzo(a,h)anthracene		0.5	0.493	1.4	LINR		
Fluoranthene	*	1.14521	1.346	17.5	AVRG	*	
Fluorene		1.48856	1.689	13.5	AVRG		
Indeno(1,2,3-cd)pyrene		0.5	0.509	1.8	LINR		
Naphthalene		1.03444	1.173	13.4	AVRG		
Phenanthrene		0.98022	1.12	14.3	AVRG		
Pyrene		0.9987	1.115	11.6	AVRG		
==========							
p-Terphenyl-d14(SURR)		0.80267	0.94873	18.2	AVRG		
2-Fluorobiphenyl(SURR)		1.85654	2.058	10.9	AVRG		

310113 1529

FORM VII

8270 Semi-Volatile Organics

310113 1529

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8270D.

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8270 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met with the exception of:

The Maximum %RSD of 15% was exceeded for 4-Nitroquinoline-1-oxide for the initial calibration with a value of 20% RSD. No further action was taken, since this compound was not detected in any samples.

SSC1146542 was the second source verification standard analyzed with the initial calibration on 01/16/13. The %D was over the 20% limit for the following compounds: Methapyriline (-27.4%), Aramite (-21.9%), 1,3,5-Trinitrobenzene (-42.2%). No further action was taken, since these compounds were not detected in any samples and were a result of a discrepancy between the primary and secondary standards.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met with the exception of:

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

Sample Q3-TFS-MW-16 was recovered below criteria for the following surrogates: 2-Fluorobiphenyl at 44.6 % with criteria of (50-110), p-Terphenyl-d14 at 47 % with criteria of (50-135). No further action was taken since the other four surrogates met criteria.

Samples coded accordingly.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been a historically poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy)methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). None of the above compounds were detected in any samples. No further action was taken.

Samples coded accordingly.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

No spikes requested by client.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

SIGNED: DATE: 01/31/2013

SEMI-VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Method: 8270

EPA Sample No	Lab Sample ID
Q3-TFS-MW-01	350800601
Q3-TFS-MW-8D	350800602
Q3-TFS-MW-05	350800603
Q3-TFS-MW-04	350800604
Q3-TFS-MW-11	350800606
Q3-TFS-MW-12	350800607
Q3-TFS-MW-15	350800608
Q3-TFS-MW-15-FD	350800609
Q3-TFS-MW-16	350800610

310113 1529

8270 Sample Data

310113 1529

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 00601.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1308

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 00602.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1328

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 00603.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1348

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 00604.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1408

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 00606.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1428

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

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SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 00607.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1448

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 00608.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1508

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 00609.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1528

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 00610.d

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1548

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

8270 QC Summary

310113 1529

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.2	U	6.1	12.2	12.2
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32	U	16	32	32
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32	U	16	32	32
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

SEMI-VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID: 12056MB.d Lab Sample ID: 159080MB

Instrument ID: SMSD04 Date Extracted: 01/21/13

Matrix: WATER Date Analyzed: 01/22/13

Level:(low/med) LOW Time Analyzed: 1228

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	159081LCS	159081LCS	12056LCS.d	01/22/13	1248
2	Q3-TFS-MW-01	350800601	00601.d	01/22/13	1308
3	Q3-TFS-MW-8D	350800602	00602.d	01/22/13	1328
4	Q3-TFS-MW-05	350800603	00603.d	01/22/13	1348
5	Q3-TFS-MW-04	350800604	00604.d	01/22/13	1408
6	Q3-TFS-MW-11	350800606	00606.d	01/22/13	1428
7	Q3-TFS-MW-12	350800607	00607.d	01/22/13	1448
8	Q3-TFS-MW-15	350800608	00608.d	01/22/13	1508
9	Q3-TFS-MW-15-FD	350800609	00609.d	01/22/13	1528
10	Q3-TFS-MW-16	350800610	00610.d	01/22/13	1548

COMMENTS:

Page 1 of 1

310113 1530

Form IV

2A

WATER SEMI-VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508006

Column(1): HPMS-5 ID: 0.25 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
159080MB	46.7	29.8	73.8	71.4	85.2	76.0	0
159081LCS	49.1	31.7	81.6	80.0	92.9	79.6	0
Q3-TFS-MW-01	43.5	28.0	77.4	74.8	85.4	72.0	0
Q3-TFS-MW-04	48.6	31.8	82.6	72.4	87.2	77.8	0
Q3-TFS-MW-05	45.8	28.7	78.0	76.2	91.8	75.6	0
Q3-TFS-MW-11	44.6	29.4	81.8	76.4	92.8	75.6	0
Q3-TFS-MW-12	43.9	28.0	76.2	74.6	90.3	74.4	0
Q3-TFS-MW-15	47.0	30.9	85.4	76.8	93.0	80.0	0
Q3-TFS-MW-15-FD	47.2	30.2	88.0	80.2	91.5	76.8	0
Q3-TFS-MW-16	26.6	16.3	45.2	44.6 *	52.8	47.0 *	2
Q3-TFS-MW-8D	47.0	30.7	76.6	71.6	89.2	75.8	0

Control Limits

S1	=	2-Fluorophenol	20 - 110
S2	=	Phenol-d5	10 - 115
S3	=	Nitrobenzene-d5	40 - 110
S4	=	2-Fluorobiphenyl	50 - 110
S5	=	2,4,6-Tribromophenol	40 - 125
S6	=	p-Terphenyl-d14	50 - 135

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: DFTPP2.d DFTPP Injection Date: 01/16/13

Instrument ID: SMSD04 DFTPP Injection Time: 0742

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	29.2	
68	Less than 2.0% of mass 69	0.2	(0.53)1
69	Mass 69 relative abundance	43.5	
70	Less than 2.0% of mass 69	0.1	(0.19)1
127	10.0 - 80.0% of mass 198	43.4	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.5	
275	10.0 - 60.0% of mass 198	26	
365	Greater than 1.0% of mass 198	3.8	
441	0.0 - 24.0% of mass 442	12.5	(15.76)2
442	Greater than 50.0% of mass 198	79.3	
443	15.0 - 24.0% of mass 442	15	(18.87)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1146530	47763	8270CAL7.d	01/16/13	0822
2	STD1146528	47764	8270CAL6.d	01/16/13	0843
3	STD1146527	47765	8270CAL5.d	01/16/13	0903
4	STD1146526	48294	8270CAL4.d	01/16/13	0923
5	STD1146525	47767	8270CAL3.d	01/16/13	0943
6	STD1146524	47768	8270CAL2.d	01/16/13	1003
7	STD1146523	47769	8270CAL1.d	01/16/13	1023
8	STD1146549	47885	BSCAL7.d	01/16/13	1107
9	STD1146548	47962	BSCAL6.d	01/16/13	1127
10	STD1146547	47964	BSCAL5.d	01/16/13	1147
11	STD1146546	48782	BSCAL4.D	01/16/13	1207
12	STD1146545	47966	BSCAL3.d	01/16/13	1227
13	STD1146544	47967	BSCAL2.d	01/16/13	1247
14	STD1146543	47968	BSCAL1.d	01/16/13	1307
15	SSC1146551	49205	BSSEC.d	01/16/13	1327
16	STD1146540	47933	AP9CAL7.d	01/16/13	1347
17	STD1146539	47934	AP9CAL6.d	01/16/13	1407
18	STD1146538	47935	AP9CAL5.d	01/16/13	1428
19	STD1146537	48784	AP9CAL4.d	01/16/13	1448

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: DFTPP2.d DFTPP Injection Date: 01/16/13

Instrument ID: SMSD04 DFTPP Injection Time: 0742

GC Column: HPMS-5 ID: 0.25 (mm)

20	STD1146536	47937	AP9CAL3.d	01/16/13	1508
21	STD1146535	47938	AP9CAL2.d	01/16/13	1528
22	STD1146534	47939	AP9CAL1.d	01/16/13	1548
23	SSC1146542	47943	AP9SEC.d	01/16/13	1608
24	SSC1146533	49212	8270SECB.d	01/16/13	1628

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Lab File ID: 47701.d DFTPP Injection Date: 01/22/13

Instrument ID: SMSD04 DFTPP Injection Time: 1032

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	27.1
68	Less than 2.0% of mass 69	0 (0)1
69	Mass 69 relative abundance	42.3
70	Less than 2.0% of mass 69	0.2 (0.47)1
127	10.0 - 80.0% of mass 198	43.6
197	Less than 2.0% of mass 198	0
198	Base Peak, 100% relative abundance	100
199	5.0 - 9.0% of mass 198	6.4
275	10.0 - 60.0% of mass 198	26.7
365	Greater than 1.0% of mass 198	3.1
441	0.0 - 24.0% of mass 442	14 (16.85)2
442	Greater than 50.0% of mass 198	82.8
443	15.0 - 24.0% of mass 442	16 (19.28)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1147415	48294	8270CCV.d	01/22/13	1105
2	CCV1147417	48782	BSCCV.d	01/22/13	1137
3	CCV1147416	48784	AP9CCV.d	01/22/13	1157
4	159080MB	159080MB	12056MB.d	01/22/13	1228
5	159081LCS	159081LCS	12056LCS.d	01/22/13	1248
6	Q3-TFS-MW-01	350800601	00601.d	01/22/13	1308
7	Q3-TFS-MW-8D	350800602	00602.d	01/22/13	1328
8	Q3-TFS-MW-05	350800603	00603.d	01/22/13	1348
9	Q3-TFS-MW-04	350800604	00604.d	01/22/13	1408
10	Q3-TFS-MW-11	350800606	00606.d	01/22/13	1428
11	Q3-TFS-MW-12	350800607	00607.d	01/22/13	1448
12	Q3-TFS-MW-15	350800608	00608.d	01/22/13	1508
13	Q3-TFS-MW-15-FD	350800609	00609.d	01/22/13	1528
14	Q3-TFS-MW-16	350800610	00610.d	01/22/13	1548

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID (Standard): 8270CAL4.d Date Analyzed: 1/16/2013

Instrument ID: SMSD04 Time Analyzed: 9:23

GC Column: HPMS-5 ID: 0.25 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	514328		4.48	1738781		5.65	1062468		7.36
	UPPER LIMIT	1028656		4.98	3477562		6.15	2124936		7.86
	LOWER LIMIT	257164		3.98	869390.5		5.15	531234		6.86
	EPA SAMPLE NO.									
1	159080MB	521204		4.48	1833140		5.64	1122973		7.35
2	159081LCS	526443		4.48	1833391		5.65	1113787		7.35
3	Q3-TFS-MW-01	496558		4.48	1748043		5.64	1090340		7.35
4	Q3-TFS-MW-8D	505654		4.48	1773167		5.64	1094727		7.35
5	Q3-TFS-MW-05	482975		4.48	1675320		5.64	1032760		7.35
6	Q3-TFS-MW-04	491421		4.48	1696240		5.65	1150459		7.35
7	Q3-TFS-MW-11	484722		4.48	1637657		5.65	1027751		7.35
8	Q3-TFS-MW-12	476552		4.48	1668718		5.64	1028420		7.35
9	Q3-TFS-MW-15	480198		4.48	1600289		5.65	1091927		7.36
10	Q3-TFS-MW-15-FD	487342		4.48	1602480		5.65	1077570		7.36
11	Q3-TFS-MW-16	468880		4.48	1637012		5.64	1024687		7.35

IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

310113 1530

FORM VIII

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID (Standard): 8270CAL4.d Date Analyzed: 1/16/2013

Instrument ID: SMSD04 Time Analyzed: 9:23

GC Column: HPMS-5 ID: 0.25 (mm)

		IS4 AREA #	RT	IS5 AREA #	RT	IS6 AREA #	RT
	MID CAL STD	1870683	8.79	2367681	11.41	2312195	12.75
	UPPER LIMIT	3741366	9.29	4735362	11.91	4624390	13.25
	LOWER LIMIT	935341.5	8.29	1183840.5	10.91	1156097.5	12.25
	EPA SAMPLE NO.						
1	159080MB	2042114	8.79	2405944	11.40	2424889	12.74
2	159081LCS	2040495	8.79	2527621	11.40	2466336	12.74
3	Q3-TFS-MW-01	2039801	8.79	2400901	11.40	2441890	12.74
4	Q3-TFS-MW-8D	2011705	8.79	2359771	11.40	2409616	12.74
5	Q3-TFS-MW-05	1917081	8.79	2299752	11.39	2335431	12.74
6	Q3-TFS-MW-04	1961765	8.79	2267770	11.40	2229815	12.74
7	Q3-TFS-MW-11	1906877	8.79	2267294	11.40	2281743	12.74
8	Q3-TFS-MW-12	1929741	8.79	2268947	11.40	2303251	12.74
9	Q3-TFS-MW-15	1949570	8.80	2291040	11.40	2209256	12.75
10	Q3-TFS-MW-15-FD	1894429	8.80	2295357	11.40	2166689	12.74
11	Q3-TFS-MW-16	1883489	8.79	2198708	11.40	2255976	12.74

IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-d12

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

310113 1530

FORM VIII

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/16/13

Instrument ID: SMSD04

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.44 S2 : 4.19 S3 : 5 S4 : 6.7

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	011613DFTPP2	47701	DFTPP2.d	01/16/13	0742				
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/16/13	0759				
3	STD1146530	47763	8270CAL7.d	01/16/13	0822	3.45	4.2	5.01	6.7
4	STD1146528	47764	8270CAL6.d	01/16/13	0843	3.44	4.19	5.01	6.7
5	STD1146527	47765	8270CAL5.d	01/16/13	0903	3.44	4.19	5	6.7
6	STD1146526	48294	8270CAL4.d	01/16/13	0923	3.44	4.19	5	6.7
7	STD1146525	47767	8270CAL3.d	01/16/13	0943	3.44	4.18	5	6.69
8	STD1146524	47768	8270CAL2.d	01/16/13	1003	3.44	4.18	5	6.69
9	STD1146523	47769	8270CAL1.d	01/16/13	1023	3.44	4.18	5	6.69
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/16/13	1043				
11	STD1146549	47885	BSCAL7.d	01/16/13	1107				
12	STD1146548	47962	BSCAL6.d	01/16/13	1127				
13	STD1146547	47964	BSCAL5.d	01/16/13	1147				
14	STD1146546	48782	BSCAL4.D	01/16/13	1207				
15	STD1146545	47966	BSCAL3.d	01/16/13	1227				
16	STD1146544	47967	BSCAL2.d	01/16/13	1247				
17	STD1146543	47968	BSCAL1.d	01/16/13	1307				
18	SSC1146551	49205	BSSEC.d	01/16/13	1327				
19	STD1146540	47933	AP9CAL7.d	01/16/13	1347				
20	STD1146539	47934	AP9CAL6.d	01/16/13	1407				
21	STD1146538	47935	AP9CAL5.d	01/16/13	1428				
22	STD1146537	48784	AP9CAL4.d	01/16/13	1448				
23	STD1146536	47937	AP9CAL3.d	01/16/13	1508				
24	STD1146535	47938	AP9CAL2.d	01/16/13	1528				
25	STD1146534	47939	AP9CAL1.d	01/16/13	1548				
26	SSC1146542	47943	AP9SEC.d	01/16/13	1608				

QC LIMITS

S1	=	2-Fluorophenol	(+/- 0.27 MINUTES)
S2	=	Phenol-d5	(+/- 0.27 MINUTES)
S3	=	Nitrobenzene-d5	(+/- 0.34 MINUTES)
S4	=	2-Fluorobiphenyl	(+/- 0.44 MINUTES)
S5	=	2,4,6-Tribromophenol	(+/- 0.44 MINUTES)
S6	=	p-Terphenyl-d14	(+/- 0.68 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/16/13

Instrument ID: SMSD04

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.44 S2 : 4.19 S3 : 5 S4 : 6.7

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
27	SSC1146533	49212	8270SECB.d	01/16/13	1628	3.43	4.18	5	6.69
28	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	0946				
29	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1011				
30	012213DFTPP1	47701	47701.d	01/22/13	1032				
31	CCV1147415	48294	8270CCV.d	01/22/13	1105	3.43	4.18	5	6.69
32	CCV1147417	48782	BSCCV.d	01/22/13	1137				
33	CCV1147416	48784	AP9CCV.d	01/22/13	1157				
34	159080MB	159080MB	12056MB.d	01/22/13	1228	3.43	4.17	4.99	6.69
35	159081LCS	159081LCS	12056LCS.d	01/22/13	1248	3.43	4.18	5	6.69
36	Q3-TFS-MW-01	350800601	00601.d	01/22/13	1308	3.43	4.17	4.99	6.69
37	Q3-TFS-MW-8D	350800602	00602.d	01/22/13	1328	3.43	4.17	4.99	6.69
38	Q3-TFS-MW-05	350800603	00603.d	01/22/13	1348	3.43	4.17	4.99	6.69
39	Q3-TFS-MW-04	350800604	00604.d	01/22/13	1408	3.43	4.18	5	6.69
40	Q3-TFS-MW-11	350800606	00606.d	01/22/13	1428	3.43	4.18	4.99	6.69
41	Q3-TFS-MW-12	350800607	00607.d	01/22/13	1448	3.43	4.17	4.99	6.69
42	Q3-TFS-MW-15	350800608	00608.d	01/22/13	1508	3.44	4.21	5	6.7
43	Q3-TFS-MW-15-FD	350800609	00609.d	01/22/13	1528	3.44	4.21	5	6.7
44	Q3-TFS-MW-16	350800610	00610.d	01/22/13	1548	3.43	4.18	4.99	6.69
45	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1608				
46	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1628				
47	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1648				
48	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1708				
49	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1728				
50	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1748				
51	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	0859				
52	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	0920				

QC LIMITS

S1	=	2-Fluorophenol	(+/- 0.27 MINUTES)
S2	=	Phenol-d5	(+/- 0.27 MINUTES)
S3	=	Nitrobenzene-d5	(+/- 0.34 MINUTES)
S4	=	2-Fluorobiphenyl	(+/- 0.44 MINUTES)
S5	=	2,4,6-Tribromophenol	(+/- 0.44 MINUTES)
S6	=	p-Terphenyl-d14	(+/- 0.68 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/16/13

Instrument ID: SMSD04

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.44 S2 : 4.19 S3 : 5 S4 : 6.7

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
53	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	0941				
54	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1002				
55	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1104				
56	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1124				
57	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1145				
58	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1206				
59	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1226				
60	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1246				
61	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1307				
62	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1332				
63	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1352				
64	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1412				
65	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1432				
66	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1458				
67	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1523				
68	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1617				
69	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1644				
70	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1704				
71	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1724				
72	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1744				
73	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1804				
74	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/28/13	1824				

			QC LIMITS
S1	=	2-Fluorophenol	(+/- 0.27 MINUTES)
S2	=	Phenol-d5	(+/- 0.27 MINUTES)
S3	=	Nitrobenzene-d5	(+/- 0.34 MINUTES)
S4	=	2-Fluorobiphenyl	(+/- 0.44 MINUTES)
S5	=	2,4,6-Tribromophenol	(+/- 0.44 MINUTES)
S6	=	p-Terphenyl-d14	(+/- 0.68 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Pyridine	40	19.1	47.8			22 - 70
N-Nitrosodimethylamine	40	20.2	50.5			25 - 110
Aniline	40	29.8	74.5			14 - 99
Bis(2-chloroethyl)ether	40	38.9	97.2			35 - 110
Phenol	40	14.3	35.8			0 - 115
2-Chlorophenol	40	32.5	81.2			35 - 105
1,3-Dichlorobenzene	40	28.3	70.8			30 - 100
1,4-Dichlorobenzene	40	28.8	72.0			30 - 100
1,2-Dichlorobenzene	40	29.7	74.2			35 - 100
Benzyl alcohol	40	30.4	76.0			30 - 110
2,2'-Oxybis(1-chloropropane)	40	36.4	91.0			25 - 130
2-Methylphenol	40	29.7	74.2			40 - 110
Hexachloroethane	40	27.8	69.5			30 - 95
N-Nitroso-di-n-propylamine	40	39.8	99.5			35 - 130
4-Methylphenol	40	27.7	69.2			30 - 110
Nitrobenzene	40	35.6	89.0			45 - 110
Isophorone	40	30.4	76.0			50 - 110
2-Nitrophenol	40	37.3	93.2			40 - 115
2,4-Dimethylphenol	40	40.2	100.0			30 - 110
Bis(2-chloroethoxy)methane	40	50.4	126.0 *			45 - 105
2,4-Dichlorophenol	40	34.9	87.2			50 - 105
1,2,4-Trichlorobenzene	40	31	77.5			35 - 105
4-Chloroaniline	40	35.4	88.5			15 - 110
Hexachlorobutadiene	40	31.6	79.0			25 - 105
4-Chloro-3-methylphenol	40	35.4	88.5			45 - 110
Hexachlorocyclopentadiene	40	15.1	37.8			13 - 80
2,4,6-Trichlorophenol	40	38.4	96.0			50 - 115
2,4,5-Trichlorophenol	40	38.8	97.0			50 - 110
2-Chloronaphthalene	40	35.7	89.2			50 - 105
2-Nitroaniline	40	39.3	98.2			50 - 115
Dimethylphthalate	40	39.7	99.2			25 - 125
2,6-Dinitrotoluene	40	38.1	95.2			50 - 115

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1530

Form III

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
3-Nitroaniline	40	38	95.0			20 - 125
2,4-Dinitrophenol	80	97.7	122.0			15 - 140
Dibenzofuran	40	38.2	95.5			55 - 105
2,4-Dinitrotoluene	40	39.8	99.5			50 - 120
4-Nitrophenol	40	15	37.5			0 - 125
4-Chlorophenyl-phenylether	40	37.4	93.5			50 - 110
Diethylphthalate	40	39.5	98.8			40 - 120
4-Nitroaniline	40	44.5	111.0			35 - 120
4,6-Dinitro-2-methylphenol	40	42.3	106.0			40 - 130
N-Nitrosodiphenylamine	40	37.8	94.5			50 - 110
4-Bromophenyl-phenylether	40	36.9	92.2			50 - 115
Hexachlorobenzene	40	37.3	93.2			50 - 110
Pentachlorophenol	40	50.4	126.0 *			40 - 115
Di-n-butylphthalate	40	39.4	98.5			55 - 115
Butylbenzylphthalate	40	41.9	105.0			45 - 115
3,3'-Dichlorobenzidine	80	71.8	89.8			20 - 110
Bis(2-ethylhexyl)phthalate	40	40.2	100.0			40 - 125
Di-n-octylphthalate	40	42.2	106.0			35 - 135
2-Picoline	40	23.3	58.2			15 - 110
N-Nitrosomethylethylamine	40	28.5	71.2			25 - 131
N-Nitrosodiethylamine	40	33.6	84.0			46 - 111
Methylmethanesulfonate	40	24.2	60.5			15 - 103
Ethyl methanesulfonate	40	38.6	96.5			46 - 113
Pentachloroethane	40	33	82.5			27 - 99
N-Nitrosopyrrolidine	40	32.2	80.5			51 - 112
Acetophenone	80	65.5	81.9			45 - 118
N-Nitrosomorpholine	40	31.8	79.5			51 - 112
o-Toluidine	40	29	72.5			49 - 97
a,a-Dimethylphenethylamine	40	0	7.8 *			70 - 130
2,6-Dichlorophenol	40	36.3	90.8			50 - 135
Hexachloropropene	40	0	0.0 *			21 - 105
N-Nitrosodibutylamine	40	32.7	81.8			43 - 130

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1530

Form III

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Isosafrole	40	37.9	94.8			70 - 130
1,2,4,5-Tetrachlorobenzene	40	31.6	79.0			40 - 100
Safrole	40	44.7	112.0 *			52 - 100
1,4-Naphthoquinone	40	6.4	16.0 *			28 - 143
1,3-Dinitrobenzene	40	37.8	94.5			61 - 112
Pentachlorobenzene	40	32	80.0			50 - 99
1-Naphthylamine	40	16	40.0			38 - 91
2-Naphthylamine	40	14.3	35.8 *			70 - 130
2,3,4,6-Tetrachlorophenol	40	38.2	95.5			55 - 122
5-Nitro-o-toluidine	40	36.4	91.0			70 - 130
p-Phenylenediamine	40	35	87.5			58 - 107
Phenacetin	40	34.3	85.8			57 - 114
4-Aminobiphenyl	40	27.7	69.2			49 - 103
Pronamide	40	34.9	87.2			59 - 99
Pentachloronitrobenzene(PCNB)	40	34.7	86.8			60 - 104
Dinoseb	40	39.6	99.0			44 - 142
4-Nitroquinoline-1-oxide	40	38	95.0			10 - 125
Methapyriline	40	18.7	46.8			0 - 90
Aramite	40	28.3	70.8			41 - 127
p-Dimethylaminoazobenzene	40	35.1	87.8			70 - 130
2-Acetylaminofluorene	40	37	92.5			63 - 103
7,12-Dimethylbenz(a)anthracene	40	38.5	96.2 *			57 - 95
3-Methylcholanthrene	40	48.8	122.0 *			52 - 105
N-Nitrosopiperidine	40	34.5	86.2			53 - 112
1,3,5-Trinitrobenzene	40	17.8	44.5			29 - 163
Diallate (Avadex)	40	35	87.5			56 - 98
Isodrin	40	38.3	95.8			54 - 110
Chlorobenzilate	40	34.9	87.2			58 - 101
Kepone	40	41.6	104.0			0 - 165
0,0,0-Triethylphosphorothioate	40	31.6	79.0			50 - 106

Spike Recovery: 9 out of 94 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1530

Form III

8270 Standards Data

310113 1530

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND		RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
Pyridine		1.546	1.647	1.607	1.648	1.684			
N-Nitrosodimethylamine		0.115	0.129	0.124	0.119	0.129			
Aniline		2.047	1.949	1.891	1.828	1.800			
Bis(2-chloroethyl)ether		1.250	1.311	1.284	1.306	1.305			
Phenol	*	1.694	1.768	1.772	1.843	1.878		*	
2-Chlorophenol		1.240	1.298	1.296	1.305	1.337			
1,3-Dichlorobenzene		1.489	1.506	1.470	1.492	1.525			
1,4-Dichlorobenzene	*	1.542	1.571	1.524	1.553	1.559		*	
1,2-Dichlorobenzene		1.339	1.400	1.402	1.420	1.451			
Benzyl alcohol		0.829	0.837	0.874	0.910	0.923			
2,2'-Oxybis(1-chloropropane)		1.074	1.110	1.070	1.111	1.116			
2-Methylphenol		1.035	1.080	1.080	1.110	1.123			
Hexachloroethane		0.642	0.613	0.601	0.614	0.621			
N-Nitroso-di-n-propylamine	#	0.998	1.003	1.065	1.080	1.088		#	
4-Methylphenol		1.502	1.580	1.631	1.651	1.681			
Nitrobenzene		0.426	0.445	0.457	0.466	0.460			
Isophorone		0.747	0.803	0.807	0.837	0.831			
2-Nitrophenol	*	0.182	0.199	0.211	0.216	0.214		*	
2,4-Dimethylphenol		0.305	0.300	0.304	0.323	0.321			
Bis(2-chloroethoxy)methane		0.446	0.463	0.476	0.498	0.498			
2,4-Dichlorophenol	*	0.317	0.331	0.333	0.344	0.342		*	
1,2,4-Trichlorobenzene		0.351	0.359	0.362	0.371	0.366			
4-Chloroaniline		0.425	0.433	0.431	0.453	0.447			
Hexachlorobutadiene	*	0.226	0.237	0.228	0.238	0.242		*	
4-Chloro-3-methylphenol	*	0.345	0.380	0.373	0.386	0.382		*	
Hexachlorocyclopentadiene	#	0.440	0.477	0.476	0.502	0.517		#	
2,4,6-Trichlorophenol	*	0.398	0.437	0.420	0.452	0.446		*	
2,4,5-Trichlorophenol		0.460	0.451	0.462	0.483	0.477			
2-Chloronaphthalene		1.162	1.181	1.135	1.190	1.196			
2-Nitroaniline		0.336	0.384	0.381	0.397	0.407			
Dimethylphthalate		1.349	1.406	1.357	1.402	1.379			
2,6-Dinitrotoluene		0.276	0.331	0.314	0.331	0.342			
3-Nitroaniline		0.303	0.322	0.321	0.319	0.316			
2,4-Dinitrophenol	#		0.145	0.189	0.216	0.229		#	

310113 1530

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND	RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
Dibenzofuran	1.540	1.622	1.572	1.642	1.646			
2,4-Dinitrotoluene	0.372	0.440	0.412	0.420	0.415			
4-Nitrophenol #	0.207	0.230	0.229	0.239	0.247		#	
4-Chlorophenyl-phenylether	0.718	0.741	0.713	0.759	0.748			
Diethylphthalate	1.278	1.299	1.237	1.278	1.291			
4-Nitroaniline	0.274	0.298	0.262	0.301	0.305			
4,6-Dinitro-2-methylphenol	0.107	0.127	0.140	0.170	0.170			
N-Nitrosodiphenylamine *	0.513	0.532	0.547	0.548	0.541		*	
4-Bromophenyl-phenylether	0.224	0.237	0.234	0.236	0.237			
Hexachlorobenzene	0.228	0.231	0.248	0.248	0.247			
Pentachlorophenol *	0.121	0.141	0.149	0.169	0.174		*	
Di-n-butylphthalate	1.129	1.212	1.284	1.271	1.278			
Butylbenzylphthalate	0.454	0.480	0.480	0.474	0.490			
3,3'-Dichlorobenzidine	0.429	0.429	0.421	0.404	0.407			
Bis(2-ethylhexyl)phthalate	0.591	0.668	0.680	0.681	0.710			
Di-n-octylphthalate *	1.073	1.163	1.197	1.263	1.327		*	
2-Picoline	1.696	1.646	1.679	1.699	1.722			
N-Nitrosomethylethylamine	0.764	0.756	0.765	0.746	0.775			
N-Nitrosodiethylamine	0.672	0.671	0.729	0.727	0.752			
Methylmethanesulfonate	0.880	0.907	0.869	0.870	0.831			
Ethyl methanesulfonate	1.050	1.077	1.087	1.127	1.159			
Pentachloroethane	0.597	0.530	0.581	0.577	0.586			
N-Nitrosopyrrolidine	0.672	0.708	0.720	0.810	0.828			
Acetophenone	0.652	0.600	0.589	0.600	0.617			
N-Nitrosomorpholine	0.804	0.712	0.754	0.780	0.795			
o-Toluidine	2.376	2.288	2.296	2.365	2.397			
a,a-Dimethylphenethylamine	0.737	0.820	0.805	0.857	0.863			
2,6-Dichlorophenol	0.297	0.308	0.300	0.328	0.319			
Hexachloropropene	0.302	0.300	0.299	0.320	0.320			
N-Nitrosodibutylamine	0.307	0.309	0.314	0.336	0.344			
Isosafrole	0.270	0.289	0.280	0.298	0.305			
1,2,4,5-Tetrachlorobenzene	0.658	0.668	0.686	0.693	0.686			
Safrole	0.241	0.246	0.243	0.259	0.268			
1,4-Naphthoquinone	0.355	0.434	0.471	0.477	0.475			

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND	RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
1,3-Dinitrobenzene	0.188	0.200	0.216	0.234	0.236			
Pentachlorobenzene	0.584	0.561	0.597	0.597	0.600			
1-Naphthylamine	1.142	1.133	1.187	1.215	1.183			
2-Naphthylamine	1.256	1.287	1.368	1.357	1.355			
2,3,4,6-Tetrachlorophenol	0.365	0.337	0.385	0.405	0.413			
5-Nitro-o-toluidine	0.333	0.386	0.407	0.414	0.403			
p-Phenylenediamine	0.361	0.395	0.419	0.451	0.459			
Phenacetin	0.340	0.405	0.429	0.459	0.458			
4-Aminobiphenyl	0.794	0.810	0.826	0.870	0.846			
Pronamide	0.336	0.335	0.359	0.394	0.387			
Pentachloronitrobenzene(PCNB)	0.113	0.118	0.115	0.117	0.111			
Dinoseb	0.113	0.149	0.173	0.205	0.221			
4-Nitroquinoline-1-oxide	0.011	0.017	0.018	0.014	0.012			
Methapyriline	0.217	0.240	0.236	0.279	0.243			
Aramite	0.155	0.151	0.150	0.162	0.163			
p-Dimethylaminoazobenzene	0.222	0.231	0.227	0.246	0.253			
2-Acetylaminofluorene	0.398	0.429	0.466	0.524	0.543			
7,12-Dimethylbenz(a)anthracene	0.473	0.479	0.488	0.521	0.533			
3-Methylcholanthrene	0.396	0.405	0.416	0.436	0.428			
N-Nitrosopiperidine	0.187	0.191	0.187	0.212	0.213			
1,3,5-Trinitrobenzene	0.655	0.739	0.857	0.903	0.921			
Diallate (Avadex)	0.576	0.619	0.632	0.637	0.644			
Isodrin	0.125	0.122	0.122	0.132	0.129			
Chlorobenzilate	0.324	0.313	0.310	0.330	0.329			
Kepone	0.110	0.109	0.102	0.104	0.099			
0,0,0-Triethylphosphorothioate	0.802	0.753	0.802	0.808	0.823			
==========								
2-Fluorophenol(SURR)	1.234	1.324	1.304	1.329	1.369			
Phenol-d5(SURR)	1.600	1.669	1.723	1.774	1.811			
Nitrobenzene-d5(SURR)	0.446	0.461	0.468	0.485	0.481			
2-Fluorobiphenyl(SURR)	1.458	1.478	1.434	1.506	1.507			
2,4,6-Tribromophenol(SURR)	0.205	0.229	0.217	0.227	0.226			
p-Terphenyl-d14(SURR)	0.807	0.833	0.819	0.800	0.812			

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND		RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2		RSD
Pyridine		1.652	1.707				1.6416	3.2		
N-Nitrosodimethylamine		0.127	0.133				0.12505	5		
Aniline		1.774	1.748				1.86251	5.7		
Bis(2-chloroethyl)ether		1.331	1.341				1.30398	2.3		
Phenol	*	1.911	1.983				1.83559	5.3	*	
2-Chlorophenol		1.335	1.341				1.30741	2.7		
1,3-Dichlorobenzene		1.522	1.510				1.50207	1.3		
1,4-Dichlorobenzene	*	1.569	1.568				1.55526	1.1	*	
1,2-Dichlorobenzene		1.440	1.434				1.4123	2.7		
Benzyl alcohol		0.921	0.936				0.89003	4.9		
2,2'-Oxybis(1-chloropropane)		1.143	1.136				1.10869	2.5		
2-Methylphenol		1.121	1.123				1.09615	3		
Hexachloroethane		0.618	0.615				0.61769	2		
N-Nitroso-di-n-propylamine	#	1.083	1.090				1.05806	3.8	#	
4-Methylphenol		1.672	1.695				1.63028	4.2		
Nitrobenzene		0.461	0.478				0.45628	3.6		
Isophorone		0.844	0.867				0.8192	4.7		
2-Nitrophenol	*	0.213	0.223				0.2082	6.6	*	
2,4-Dimethylphenol		0.322	0.340				0.31641	4.5		
Bis(2-chloroethoxy)methane		0.493	0.515				0.484	4.9		
2,4-Dichlorophenol	*	0.343	0.358				0.33814	3.9	*	
1,2,4-Trichlorobenzene		0.366	0.379				0.36489	2.4		
4-Chloroaniline		0.449	0.460				0.44254	2.9		
Hexachlorobutadiene	*	0.240	0.248				0.23702	3.3	*	
4-Chloro-3-methylphenol	*	0.388	0.402				0.37931	4.6	*	
Hexachlorocyclopentadiene	#	0.520	0.531				0.49456	6.5	#	
2,4,6-Trichlorophenol	*	0.449	0.452				0.43642	4.7	*	
2,4,5-Trichlorophenol		0.498	0.491				0.47466	3.7		
2-Chloronaphthalene		1.202	1.213				1.18274	2.2		
2-Nitroaniline		0.423	0.412				0.39125	7.3		
Dimethylphthalate		1.387	1.374				1.37896	1.5		
2,6-Dinitrotoluene		0.338	0.338				0.32433	7.2		
3-Nitroaniline		0.327	0.321				0.31834	2.4		
2,4-Dinitrophenol	#	0.237	0.241				0.20945	0.99938	#	17.55718

310113 1530

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND	RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2	RSD
Dibenzofuran	1.662	1.650				1.61907	2.8	
2,4-Dinitrotoluene	0.428	0.423				0.41569	5.2	
4-Nitrophenol #	0.254	0.242				0.23538	6.6 #	
4-Chlorophenyl-phenylether	0.752	0.743				0.73922	2.3	
Diethylphthalate	1.327	1.316				1.28932	2.3	
4-Nitroaniline	0.306	0.289				0.2907	5.8	
4,6-Dinitro-2-methylphenol	0.173	0.176				0.15179	0.99935	
N-Nitrosodiphenylamine *	0.536	0.547				0.53761	2.3 *	
4-Bromophenyl-phenylether	0.230	0.234				0.23305	2.1	
Hexachlorobenzene	0.244	0.250				0.24232	3.7	
Pentachlorophenol *	0.175	0.179				0.1582	13.8 *	
Di-n-butylphthalate	1.271	1.265				1.24427	4.5	
Butylbenzylphthalate	0.491	0.488				0.47936	2.7	
3,3'-Dichlorobenzidine	0.416	0.435				0.42003	2.8	
Bis(2-ethylhexyl)phthalate	0.714	0.715				0.67976	6.4	
Di-n-octylphthalate *	1.325	1.251				1.22836	7.5 *	
2-Picoline	1.778	1.748				1.70949	2.6	
N-Nitrosomethylethylamine	0.769	0.764				0.76276	1.2	
N-Nitrosodiethylamine	0.765	0.752				0.7239	5.3	
Methylmethanesulfonate	0.847	0.792				0.85648	4.3	
Ethyl methanesulfonate	1.178	1.164				1.12038	4.4	
Pentachloroethane	0.597	0.591				0.57996	4	
N-Nitrosopyrrolidine	0.845	0.859				0.7776	9.7	
Acetophenone	0.605	0.605				0.60968	3.4	
N-Nitrosomorpholine	0.806	0.799				0.77865	4.4	
o-Toluidine	2.420	2.374				2.35934	2.1	
a,a-Dimethylphenethylamine	0.848	0.850				0.82558	5.4	
2,6-Dichlorophenol	0.308	0.308				0.30979	3.4	
Hexachloropropene	0.286	0.309				0.30528	4	
N-Nitrosodibutylamine	0.338	0.336				0.32647	4.8	
Isosafrole	0.297	0.300				0.2912	4.3	
1,2,4,5-Tetrachlorobenzene	0.686	0.702				0.6827	2.2	
Safrole	0.255	0.260				0.25328	4	
1,4-Naphthoquinone	0.474	0.460				0.44919	9.8	

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND	RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2	RSD
1,3-Dinitrobenzene	0.232	0.239				0.22077	9.1	
Pentachlorobenzene	0.591	0.603				0.59029	2.4	
1-Naphthylamine	1.128	1.160				1.164	2.8	
2-Naphthylamine	1.310	1.330				1.32332	3.1	
2,3,4,6-Tetrachlorophenol	0.397	0.414				0.38814	7.3	
5-Nitro-o-toluidine	0.404	0.413				0.39423	7.2	
p-Phenylenediamine	0.459	0.463				0.42963	9.1	
Phenacetin	0.468	0.476				0.43346	11	
4-Aminobiphenyl	0.843	0.855				0.83479	3.2	
Pronamide	0.395	0.397				0.37203	7.6	
Pentachloronitrobenzene(PCNB)	0.114	0.115				0.11481	1.9	
Dinoseb	0.229	0.236				0.18956	0.99766	
4-Nitroquinoline-1-oxide	0.011	0.012				0.01359	20	<-
Methapyriline	0.236	0.224				0.23932	8.2	
Aramite	0.163	0.165				0.15817	3.9	
p-Dimethylaminoazobenzene	0.254	0.257				0.24136	5.9	
2-Acetylaminofluorene	0.550	0.549				0.49405	12.7	
7,12-Dimethylbenz(a)anthracene	0.545	0.544				0.51192	6.1	
3-Methylcholanthrene	0.438	0.434				0.42195	3.9	
N-Nitrosopiperidine	0.206	0.204				0.20005	5.7	
1,3,5-Trinitrobenzene	0.911	0.914				0.84283	12.4	
Diallate (Avadex)	0.628	0.659				0.62792	4.2	
Isodrin	0.132	0.133				0.12784	3.8	
Chlorobenzilate	0.328	0.340				0.32502	3.2	
Kepone	0.094	0.089				0.10114	7.7	
0,0,0-Triethylphosphorothioate	0.835	0.834				0.80818	3.5	
==========								
2-Fluorophenol(SURR)	1.366	1.411				1.33393	4.2	
Phenol-d5(SURR)	1.833	1.877				1.75535	5.5	
Nitrobenzene-d5(SURR)	0.476	0.495				0.47308	3.5	
2-Fluorobiphenyl(SURR)	1.515	1.534				1.49026	2.4	
2,4,6-Tribromophenol(SURR)	0.225	0.224				0.22176	3.7	
p-Terphenyl-d14(SURR)	0.820	0.806				0.81383	1.4	

Average Used: 4.7

310113 1530

FORM VI

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1327

CCV ID: SSC1146551 Lab File ID: BSSEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3,3'-Dichlorobenzidine	0.42003	0.40677	3.2	AVRG	
Acetophenone	0.60968	0.55676	8.7	AVRG	

310113 1530

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1608

CCV ID: SSC1146542 Lab File ID: AP9SEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
2-Picoline	1.70949	1.666	2.5	AVRG	
N-Nitrosomethylethylamine	0.76276	0.71724	6.0	AVRG	
N-Nitrosodiethylamine	0.7239	0.74747	3.3	AVRG	
Methylmethanesulfonate	0.85648	0.90027	5.1	AVRG	
Ethyl methanesulfonate	1.12038	1.326	18.4	AVRG	
Pentachloroethane	0.57996	0.56907	1.9	AVRG	
N-Nitrosopyrrolidine	0.7776	0.79364	2.1	AVRG	
Acetophenone	0.60968	0.61419	0.7	AVRG	
N-Nitrosomorpholine	0.77865	0.80317	3.1	AVRG	
o-Toluidine	2.35934	2.378	0.8	AVRG	
a,a-Dimethylphenethylamine	0.82558	0.81767	1.0	AVRG	
2,6-Dichlorophenol	0.30979	0.34356	10.9	AVRG	
Hexachloropropene	0.30528	0.32203	5.5	AVRG	
N-Nitrosodibutylamine	0.32647	0.33136	1.5	AVRG	
Isosafrole	0.2912	0.32106	10.3	AVRG	
1,2,4,5-Tetrachlorobenzene	0.6827	0.71968	5.4	AVRG	
Safrole	0.25328	0.2871	13.4	AVRG	
1,4-Naphthoquinone	0.44919	0.50468	12.4	AVRG	
1,3-Dinitrobenzene	0.22077	0.26182	18.6	AVRG	
Pentachlorobenzene	0.59029	0.60775	3.0	AVRG	
1-Naphthylamine	1.164	1.044	10.3	AVRG	
2-Naphthylamine	1.32332	1.342	1.4	AVRG	
2,3,4,6-Tetrachlorophenol	0.38814	0.38821	0.0	AVRG	
5-Nitro-o-toluidine	0.39423	0.39001	1.1	AVRG	
p-Phenylenediamine	0.42963	0.44285	3.1	AVRG	
Phenacetin	0.43346	0.4414	1.8	AVRG	
4-Aminobiphenyl	0.83479	0.81621	2.2	AVRG	
Pronamide	0.37203	0.40088	7.8	AVRG	
Pentachloronitrobenzene(PCNB)	0.11481	0.12184	6.1	AVRG	
Dinoseb	45	45.3	0.7	LINR	
4-Nitroquinoline-1-oxide	0.01359	0.01562	14.9	AVRG	
Methapyriline	0.23932	0.17372	27.4	AVRG	
Aramite	0.15817	0.12361	21.8	AVRG	
p-Dimethylaminoazobenzene	0.24136	0.25589	6.0	AVRG	
2-Acetylaminofluorene	0.49405	0.5085	2.9	AVRG	
7,12-Dimethylbenz(a)anthracene	0.51192	0.52817	3.2	AVRG	

310113 1530

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1608

CCV ID: SSC1146542 Lab File ID: AP9SEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3-Methylcholanthrene	0.42195	0.41649	1.3	AVRG	
N-Nitrosopiperidine	0.20005	0.21137	5.7	AVRG	
1,3,5-Trinitrobenzene	0.84283	0.48725	42.2	AVRG	
Diallate (Avadex)	0.62792	0.63992	1.9	AVRG	
Isodrin	0.12784	0.14212	11.2	AVRG	
Chlorobenzilate	0.32502	0.34095	4.9	AVRG	
Kepone	0.10114	0.10809	6.9	AVRG	
0,0,0-Triethylphosphorothioate	0.80818	0.81984	1.4	AVRG	

Average Used: 7.1

310113 1530

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1628

CCV ID: SSC1146533 Lab File ID: 8270SECB.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
Pyridine		1.6416	1.561	4.9	AVRG		
N-Nitrosodimethylamine		0.12505	0.13888	11.1	AVRG		
Aniline		1.86251	2.036	9.3	AVRG		
Bis(2-chloroethyl)ether		1.30398	1.54	18.1	AVRG		
Phenol	*	1.83559	1.9	3.5	AVRG	*	
2-Chlorophenol		1.30741	1.362	4.2	AVRG		
1,3-Dichlorobenzene		1.50207	1.505	0.2	AVRG		
1,4-Dichlorobenzene	*	1.55526	1.561	0.4	AVRG	*	
1,2-Dichlorobenzene		1.4123	1.433	1.5	AVRG		
Benzyl alcohol		0.89003	0.87389	1.8	AVRG		
2,2'-Oxybis(1-chloropropane)		1.10869	1.208	9.0	AVRG		
2-Methylphenol		1.09615	1.184	8.0	AVRG		
Hexachloroethane		0.61769	0.6251	1.2	AVRG		
N-Nitroso-di-n-propylamine	#	1.05806	1.248	18.0	AVRG	#	
4-Methylphenol		1.63028	1.72	5.5	AVRG		
Nitrobenzene		0.45628	0.47338	3.7	AVRG		
Isophorone		0.8192	0.82765	1.0	AVRG		
2-Nitrophenol	*	0.2082	0.21415	2.9	AVRG	*	
2,4-Dimethylphenol		0.31641	0.37409	18.2	AVRG		
Bis(2-chloroethoxy)methane		0.484	0.56255	16.2	AVRG		
2,4-Dichlorophenol	*	0.33814	0.34374	1.7	AVRG	*	
1,2,4-Trichlorobenzene		0.36489	0.3779	3.6	AVRG		
4-Chloroaniline		0.44254	0.4785	8.1	AVRG		
Hexachlorobutadiene	*	0.23702	0.27236	14.9	AVRG	*	
4-Chloro-3-methylphenol	*	0.37931	0.40467	6.7	AVRG	*	
Hexachlorocyclopentadiene	#	0.49456	0.52672	6.5	AVRG	#	
2,4,6-Trichlorophenol	*	0.43642	0.46349	6.2	AVRG	*	
2,4,5-Trichlorophenol		0.47466	0.5078	7.0	AVRG		
2-Chloronaphthalene		1.18274	1.215	2.7	AVRG		
2-Nitroaniline		0.39125	0.43649	11.6	AVRG		
Dimethylphthalate		1.37896	1.587	15.1	AVRG		
2,6-Dinitrotoluene		0.32433	0.33167	2.3	AVRG		
3-Nitroaniline		0.31834	0.34846	9.5	AVRG		
2,4-Dinitrophenol	#	45	49.7	10.4	LINR	#	0.2502
Dibenzofuran		1.61907	1.692	4.5	AVRG		
2,4-Dinitrotoluene		0.41569	0.43229	4.0	AVRG		

310113 1530

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1628

CCV ID: SSC1146533 Lab File ID: 8270SECB.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
4-Nitrophenol	#	0.23538	0.25615	8.8	AVRG	#
4-Chlorophenyl-phenylether		0.73922	0.83625	13.1	AVRG	
Diethylphthalate		1.28932	1.438	11.5	AVRG	
4-Nitroaniline		0.2907	0.32625	12.2	AVRG	
4,6-Dinitro-2-methylphenol		45	46.5	3.3	LINR	
N-Nitrosodiphenylamine	*	0.53761	0.64288	19.6	AVRG	*
4-Bromophenyl-phenylether		0.23305	0.27188	16.7	AVRG	
Hexachlorobenzene		0.24232	0.26927	11.1	AVRG	
Pentachlorophenol	*	0.1582	0.17478	10.5	AVRG	*
Di-n-butylphthalate		1.24427	1.49	19.7	AVRG	
Butylbenzylphthalate		0.47936	0.55596	16.0	AVRG	
Bis(2-ethylhexyl)phthalate		0.67976	0.77263	13.7	AVRG	
Di-n-octylphthalate	*	1.22836	1.424	15.9	AVRG	*
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2-Fluorophenol(SURR)		1.33393	1.43	7.2	AVRG	
Phenol-d5(SURR)		1.75535	1.816	3.5	AVRG	
Nitrobenzene-d5(SURR)		0.47308	0.47773	1.0	AVRG	
2-Fluorobiphenyl(SURR)		1.49026	1.505	1.0	AVRG	
2,4,6-Tribromophenol(SURR)		0.22176	0.23631	6.6	AVRG	
p-Terphenyl-d14(SURR)		0.81383	0.77463	4.8	AVRG	

310113 1530

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1105

CCV ID: CCV1147415 Lab File ID: 8270CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
Pyridine		1.6416	1.598	2.7	AVRG		
N-Nitrosodimethylamine		0.12505	0.11593	7.3	AVRG		
Aniline		1.86251	1.774	4.8	AVRG		
Bis(2-chloroethyl)ether		1.30398	1.3	0.3	AVRG		
Phenol	*	1.83559	1.828	0.4	AVRG	*	
2-Chlorophenol		1.30741	1.324	1.3	AVRG		
1,3-Dichlorobenzene		1.50207	1.479	1.5	AVRG		
1,4-Dichlorobenzene	*	1.55526	1.536	1.2	AVRG	*	
1,2-Dichlorobenzene		1.4123	1.427	1.0	AVRG		
Benzyl alcohol		0.89003	0.90576	1.8	AVRG		
2,2'-Oxybis(1-chloropropane)		1.10869	1.095	1.2	AVRG		
2-Methylphenol		1.09615	1.091	0.5	AVRG		
Hexachloroethane		0.61769	0.61501	0.4	AVRG		
N-Nitroso-di-n-propylamine	#	1.05806	1.049	0.9	AVRG	#	
4-Methylphenol		1.63028	1.638	0.5	AVRG		
Nitrobenzene		0.45628	0.45971	0.8	AVRG		
Isophorone		0.8192	0.83557	2.0	AVRG		
2-Nitrophenol	*	0.2082	0.21688	4.2	AVRG	*	
2,4-Dimethylphenol		0.31641	0.31327	1.0	AVRG		
Bis(2-chloroethoxy)methane		0.484	0.49983	3.3	AVRG		
2,4-Dichlorophenol	*	0.33814	0.34446	1.9	AVRG	*	
1,2,4-Trichlorobenzene		0.36489	0.37167	1.9	AVRG		
4-Chloroaniline		0.44254	0.44615	0.8	AVRG		
Hexachlorobutadiene	*	0.23702	0.2374	0.2	AVRG	*	
4-Chloro-3-methylphenol	*	0.37931	0.38696	2.0	AVRG	*	
Hexachlorocyclopentadiene	#	0.49456	0.49264	0.4	AVRG	#	
2,4,6-Trichlorophenol	*	0.43642	0.43681	0.1	AVRG	*	
2,4,5-Trichlorophenol		0.47466	0.47889	0.9	AVRG		
2-Chloronaphthalene		1.18274	1.177	0.5	AVRG		
2-Nitroaniline		0.39125	0.40148	2.6	AVRG		
Dimethylphthalate		1.37896	1.395	1.2	AVRG		
2,6-Dinitrotoluene		0.32433	0.3371	3.9	AVRG		
3-Nitroaniline		0.31834	0.31897	0.2	AVRG		
2,4-Dinitrophenol	#	45	45.8	1.8	LINR	#	0.22806
Dibenzofuran		1.61907	1.629	0.6	AVRG		
2,4-Dinitrotoluene		0.41569	0.41358	0.5	AVRG		

310113 1530

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1105

CCV ID: CCV1147415 Lab File ID: 8270CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
4-Nitrophenol	#	0.23538	0.23531	0.0	AVRG	#
4-Chlorophenyl-phenylether		0.73922	0.72451	2.0	AVRG	
Diethylphthalate		1.28932	1.261	2.2	AVRG	
4-Nitroaniline		0.2907	0.28253	2.8	AVRG	
4,6-Dinitro-2-methylphenol		45	48.1	6.9	LINR	
N-Nitrosodiphenylamine	*	0.53761	0.53091	1.2	AVRG	*
4-Bromophenyl-phenylether		0.23305	0.22782	2.2	AVRG	
Hexachlorobenzene		0.24232	0.24537	1.3	AVRG	
Pentachlorophenol	*	0.1582	0.18209	15.1	AVRG	*
Di-n-butylphthalate		1.24427	1.249	0.4	AVRG	
Butylbenzylphthalate		0.47936	0.47693	0.5	AVRG	
Bis(2-ethylhexyl)phthalate		0.67976	0.68776	1.2	AVRG	
Di-n-octylphthalate	*	1.22836	1.279	4.1	AVRG	*
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2-Fluorophenol(SURR)		1.33393	1.333	0.1	AVRG	
Phenol-d5(SURR)		1.75535	1.75	0.3	AVRG	
Nitrobenzene-d5(SURR)		0.47308	0.47576	0.6	AVRG	
2-Fluorobiphenyl(SURR)		1.49026	1.489	0.1	AVRG	
2,4,6-Tribromophenol(SURR)		0.22176	0.21849	1.5	AVRG	
p-Terphenyl-d14(SURR)		0.81383	0.76929	5.5	AVRG	

310113 1530

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1137

CCV ID: CCV1147417 Lab File ID: BSCCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3,3'-Dichlorobenzidine	0.42003	0.45534	8.4	AVRG	
Acetophenone	0.60968	0.58895	3.4	AVRG	

310113 1530

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1157

CCV ID: CCV1147416 Lab File ID: AP9CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
2-Picoline	1.70949	1.721	0.7	AVRG	
N-Nitrosomethylethylamine	0.76276	0.76312	0.0	AVRG	
N-Nitrosodiethylamine	0.7239	0.75421	4.2	AVRG	
Methylmethanesulfonate	0.85648	0.85359	0.3	AVRG	
Ethyl methanesulfonate	1.12038	1.155	3.1	AVRG	
Pentachloroethane	0.57996	0.58143	0.3	AVRG	
N-Nitrosopyrrolidine	0.7776	0.81519	4.8	AVRG	
Acetophenone	0.60968	0.5919	2.9	AVRG	
N-Nitrosomorpholine	0.77865	0.76725	1.5	AVRG	
o-Toluidine	2.35934	2.409	2.1	AVRG	
a,a-Dimethylphenethylamine	0.82558	0.84798	2.7	AVRG	
2,6-Dichlorophenol	0.30979	0.32921	6.3	AVRG	
Hexachloropropene	0.30528	0.30036	1.6	AVRG	
N-Nitrosodibutylamine	0.32647	0.32065	1.8	AVRG	
Isosafrole	0.2912	0.28812	1.1	AVRG	
1,2,4,5-Tetrachlorobenzene	0.6827	0.66316	2.9	AVRG	
Safrole	0.25328	0.25311	0.1	AVRG	
1,4-Naphthoquinone	0.44919	0.47834	6.5	AVRG	
1,3-Dinitrobenzene	0.22077	0.23595	6.9	AVRG	
Pentachlorobenzene	0.59029	0.57544	2.5	AVRG	
1-Naphthylamine	1.164	1.178	1.2	AVRG	
2-Naphthylamine	1.32332	1.317	0.5	AVRG	
2,3,4,6-Tetrachlorophenol	0.38814	0.38872	0.1	AVRG	
5-Nitro-o-toluidine	0.39423	0.40614	3.0	AVRG	
p-Phenylenediamine	0.42963	0.43559	1.4	AVRG	
Phenacetin	0.43346	0.44802	3.4	AVRG	
4-Aminobiphenyl	0.83479	0.85907	2.9	AVRG	
Pronamide	0.37203	0.37909	1.9	AVRG	
Pentachloronitrobenzene(PCNB)	0.11481	0.10482	8.7	AVRG	
Dinoseb	45	46.2	2.7	LINR	
4-Nitroquinoline-1-oxide	0.01359	0.01448	6.5	AVRG	
Methapyriline	0.23932	0.26185	9.4	AVRG	
Aramite	0.15817	0.16604	5.0	AVRG	
p-Dimethylaminoazobenzene	0.24136	0.25364	5.1	AVRG	
2-Acetylaminofluorene	0.49405	0.54794	10.9	AVRG	
7,12-Dimethylbenz(a)anthracene	0.51192	0.52439	2.4	AVRG	

310113 1530

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1157

CCV ID: CCV1147416 Lab File ID: AP9CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3-Methylcholanthrene	0.42195	0.42524	0.8	AVRG	
N-Nitrosopiperidine	0.20005	0.20688	3.4	AVRG	
1,3,5-Trinitrobenzene	0.84283	0.82349	2.3	AVRG	
Diallate (Avadex)	0.62792	0.63019	0.4	AVRG	
Isodrin	0.12784	0.13071	2.2	AVRG	
Chlorobenzilate	0.32502	0.32987	1.5	AVRG	
Kepone	0.10114	0.10613	4.9	AVRG	
0,0,0-Triethylphosphorothioate	0.80818	0.80889	0.1	AVRG	

FL-PRO Organics

310113 1530

CASE NARRATIVE
FL-PRO Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method FL-PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met with the exception of:

Sample Q3-TFS-MW-01 was recovered below criteria for the following surrogate: o-Terphenyl Surrogate at 68.7 % with criteria of (82-142). The most probable cause for this recovery is matrix interference near the elution of the surrogate since there was a positive result for TPH at 2600ug/L.

Sample Q3-TFS-MW-04 was recovered below criteria for the following surrogate: o-Terphenyl Surrogate at 76.6 % with criteria of (82-142). The most probable cause for this recovery is matrix interference near the elution of the surrogate since there was a positive result for TPH at 13200ug/L.

Spectrum Analytical Inc. Lab Reference No./SDG: 3508006

Client: CH2M Hill

Samples coded accordingly.

D. Spikes:

1. Laboratory Control Spikes (LCS)

An LCS/LCSD set was analyzed. All percent recovery and relative percent difference (RPD) criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

No spikes requested by client.

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.
Sample Q3-TFS-MW-04 required a 5X dilution due to high concentration of the following analyte: TPH.

Sample Q3-TFS-MW-15 required a 10X dilution due to high concentration of the following analyte: TPH.

Sample Q3-TFS-MW-15-FD required a 10X dilution due to high concentration of the following analyte: TPH.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

Signature:
Name: Brian C. Spanh Title: Lab Director

SIGNED: DATE: 01/21/2013

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Method: FL-PRO

EPA Sample No	Lab Sample ID
Q3-TFS-MW-01	350800601
Q3-TFS-MW-8D	350800602
Q3-TFS-MW-05	350800603
Q3-TFS-MW-04	350800604
Q3-TFS-MW-11	350800606
Q3-TFS-MW-12	350800607
Q3-TFS-MW-15	350800608
Q3-TFS-MW-15-FD	350800609
Q3-TFS-MW-16	350800610

310113 1530

FL-PRO Sample Data

310113 1530

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800601 Lab File ID 006-1.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 1928

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	2600		251	502	502

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-8D

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800602 Lab File ID 006-2.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 1950

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	580		251	502	502

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-05

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800603 Lab File ID 006-3.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2012

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	920		251	502	502

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-04

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800604 Lab File ID 006-4D5.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0841

PercentSolids: 0 decanted : Dilution Factor: 5

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	13200		1260	2510	2510

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-11

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800606 Lab File ID 006-6.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2141

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	2400		251	502	502

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800607 Lab File ID 006-7.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2203

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	560		251	502	502

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800608 Lab File ID 006-8D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0903

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	23500		2510	5020	5020

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-15-FD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800609 Lab File ID 006-9D10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/21/13 Time: 0925

PercentSolids: 0 decanted : Dilution Factor: 10

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	22700		2510	5020	5020

310113 1530

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-16

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 350800610 Lab File ID 006-10.D

Sample wt/vol: 995 Units: ML Date Received: 01/17/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 2310

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	420	J	251	502	502

310113 1530

Form I

FL-PRO QC Summary

310113 1530

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

158978MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Matrix: WATER Lab Sample ID: 158978MB Lab File ID: 12049MB.D

Sample wt/vol: 1000 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 2 Date Extracted: 01/18/13

Level:(low/med) LOW Date Analyzed: 01/18/13 Time: 1653

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	500	U	250	500	500

310113 1530

Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

158978MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Lab File ID: 12049MB.D Lab Sample ID: 158978MB

Instrument ID: SFID01 Date Extracted: 01/18/13

Matrix: WATER Date Analyzed: 01/18/13

Level:(low/med) LOW Time Analyzed: 1653

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	158976LCS	158976LCS	12049LCS.D	01/18/13	1715
2	158977LCSD	158977LCSD	12049LD.D	01/18/13	1737
3	Q3-TFS-MW-01	350800601	006-1.D	01/18/13	1928
4	Q3-TFS-MW-8D	350800602	006-2.D	01/18/13	1950
5	Q3-TFS-MW-05	350800603	006-3.D	01/18/13	2012
6	Q3-TFS-MW-11	350800606	006-6.D	01/18/13	2141
7	Q3-TFS-MW-12	350800607	006-7.D	01/18/13	2203
8	Q3-TFS-MW-16	350800610	006-10.D	01/18/13	2310
9	Q3-TFS-MW-04	350800604	006-4D5.D	01/21/13	0841
10	Q3-TFS-MW-15	350800608	006-8D10.D	01/21/13	0903
11	Q3-TFS-MW-15-FD	350800609	006-9D10.D	01/21/13	0925

COMMENTS:

Page 1 of 1

310113 1530

Form IV

2A

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508006

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
158976LCS	90.0	49.3					0
158977LCSD	92.0	50.7					0
158978MB	100.0	66.7					0
Q3-TFS-MW-01	68.7 *	66.3					1
Q3-TFS-MW-04	76.6 *	73.0					1
Q3-TFS-MW-05	94.5	73.0					0
Q3-TFS-MW-11	82.6	73.0					0
Q3-TFS-MW-12	96.5	73.0					0
Q3-TFS-MW-15	84.6	73.0					0
Q3-TFS-MW-15-FD	87.6	79.6					0
Q3-TFS-MW-16	89.5	66.3					0
Q3-TFS-MW-8D	99.5	66.3					0

Control Limits

S1 = o-Terphenyl Surrogate 82 - 142

S2 = Nonatriacontane (C-39) 42 - 193

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

Control limit source: (lab/method) METHOD

Form II

310113 1530

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 01/18/13

Instrument ID: SFID01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.72 S2 : 8.58 S3 : S4 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	STD1146337	48525	PROCAL7.D	01/18/13	0725	3.71	8.56		
2	STD1146336	48524	PROCAL6.D	01/18/13	0747	3.71	8.57		
3	STD1146335	48523	PROCAL5.D	01/18/13	0809	3.71	8.57		
4	STD1146334	49061	PROCAL4.D	01/18/13	0831	3.72	8.58		
5	STD1146333	48522	PROCAL3.D	01/18/13	0854	3.73	8.63		
6	STD1146332	48521	PROCAL2.D	01/18/13	0916	3.72	8.59		
7	STD1146331	48520	PROCAL1.D	01/18/13	0938	3.72	8.6		
8	SSC1146341	49064	PROSEC.D	01/18/13	1001	3.72	8.59		
9	CCV1146338	49061	PROCCV1.D	01/18/13	1049	3.71	8.5		
10	158978MB	158978MB	12049MB.D	01/18/13	1653	3.8	8.91		
11	158976LCS	158976LCS	12049LCS.D	01/18/13	1715	3.72	8.58		
12	158977LCSD	158977LCSD	12049LD.D	01/18/13	1737	3.71	8.55		
13	Q3-TFS-MW-01	350800601	006-1.D	01/18/13	1928	3.7	8.46		
14	Q3-TFS-MW-8D	350800602	006-2.D	01/18/13	1950	3.7	8.46		
15	Q3-TFS-MW-05	350800603	006-3.D	01/18/13	2012	3.69	8.44		
16	CCV1146339	49061	PROCCV2.D	01/18/13	2057	3.72	8.58		
17	Q3-TFS-MW-11	350800606	006-6.D	01/18/13	2141	3.72	8.62		
18	Q3-TFS-MW-12	350800607	006-7.D	01/18/13	2203	3.71	8.59		
19	Q3-TFS-MW-16	350800610	006-10.D	01/18/13	2310	3.73	8.65		
20	CCV1146340	49061	PROCCV3.D	01/18/13	2354	3.73	8.63		
21	CCV1146342	49061	PROCCV1.D	01/21/13	0756	3.72	8.59		
22	Q3-TFS-MW-04	350800604	006-4D5.D	01/21/13	0841	3.71	8.56		
23	Q3-TFS-MW-15	350800608	006-8D10.D	01/21/13	0903	3.7	8.54		
24	Q3-TFS-MW-15-FD	350800609	006-9D10.D	01/21/13	0925	3.71	8.54		
25	CCV1146343	49061	PROCCV2.D	01/21/13	1010	3.72	8.6		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.2 MINUTES)
S2	=	Nonatriacontane (C-39)	(+/- 0.46 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

Page 1 of 1

310113 1530

FORM VIII

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 158976LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
TPH	3400	2100	61.8			55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1530

Form III

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 158977LCSD

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
TPH	3400	2300	67.6	9.1	20	55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

310113 1530

Form III

FL-PRO Standards Data

310113 1530

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

LAB FILE ID: RRF0.17 =PROCAL1.D RRF0.34 =PROCAL2.D
RRF0.85 =PROCAL3.D RRF1.7 =PROCAL4.D RRF2.55 =PROCAL5.D

COMPOUND	RRF0.17	RRF0.34	RRF0.85	RRF1.7	RRF2.55
TPH	10825629.41	8494755.882	7226644.706	6960075.882	7599983.922
==========					
Nonatriacontane (C-39)(SURR)	5715666.667	5732746.667	6087946.667	5835133.333	6206693.333
o-Terphenyl Surrogate(SURR)			7524920	7123980	6496620

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

LAB FILE ID: RRF3.4 =PROCAL6.D RRF5.1 =PROCAL7.D

COMPOUND	RRF3.4	RRF5.1			
TPH	7274761.765	6855578.235			
==========					
Nonatriacontane (C-39)(SURR)	6119546.667	5478013.333			
o-Terphenyl Surrogate(SURR)	5806080	4846120			

310113 1530

FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
TPH	AVRG		7891061.4	17.8
==========				
Nonatriacontane (C-39)(SURR)	AVRG		5882249.524	4.5
o-Terphenyl Surrogate(SURR)	AVRG		6359544	16.8

310113 1530

FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

Min RRF for SPCC(#) = 0 Max %RSD for CCC(*) = 0 %

LAB FILE ID: RT1: PROCAL1.D RT2: PROCAL2.D
RT3: PROCAL3.D RT4: PROCAL4.D RT5: PROCAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MIDCAL RT	RT WINDOW FROM	TO
TPH	5.105	5.105	5.105	5.105	5.105			
==========								
Nonatriacontane (C-39)(SURR)	8.597	8.590	8.630	8.583	8.570			
o-Terphenyl Surrogate(SURR)			3.730	3.720	3.713			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508006

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

Min RRF for SPCC(#) = 0 Max %RSD for CCC(*) = 0 %

LAB FILE ID: RT6: PROCAL6.D RT7: PROCAL7.D

COMPOUND	RT6	RT7				MIDCAL RT	RT WINDOW FROM	TO
TPH	5.105	5.105				5.105	0.480	9.730
==========								
Nonatriacontane (C-39)(SURR)	8.570	8.560				8.583	8.123	9.043
o-Terphenyl Surrogate(SURR)	3.713	3.713				3.720	3.520	3.920

7SSC

FL-PRO ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/18/13 Time: 1001

CCV ID: SSC1146341 Lab File ID: PROSEC.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6805058.235	13.8	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	6029946.667	2.5	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6764560	6.4	AVRG	

310113 1530

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/18/13 Time: 1049

CCV ID: CCV1146338 Lab File ID: PROCCV1.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	7382688.235	6.4	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	6264800	6.5	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	7634560	20.0	AVRG	

310113 1530

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/18/13 Time: 2057

CCV ID: CCV1146339 Lab File ID: PROCCV2.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6404448.235	18.8	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5249120	10.8	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6675000	5.0	AVRG	

310113 1530

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/18/13 Time: 2354

CCV ID: CCV1146340 Lab File ID: PROCCV3.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6354541.765	19.5	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5038000	14.4	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6613480	4.0	AVRG	

310113 1530

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/21/13 Time: 0756

CCV ID: CCV1146342 Lab File ID: PROCCV1.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6000434.118	24.0	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	4827946.667	17.9	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	5946160	6.5	AVRG	

310113 1530

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508006

Instrument ID: SFID01 CalibrationDate: 01/21/13 Time: 1010

CCV ID: CCV1146343 Lab File ID: PROCCV2.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	7008102.941	11.2	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5711080	2.9	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	7303600	14.8	AVRG	

310113 1530

FORM VII

Chain of Custody Documentation

310113 1530

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 1 of 1 3508006 MK

CHAIN OF CUSTODY RECORD

☐ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☒ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 175 Metro Center Blvd, Warwick, RI 02886, (401) 732-3400

Special Handling:

TAT- Indicate Date Needed: 28 Day
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Greg Rowell
CH2M HILL
Atlanta, GA

Telephone #:
Project Mgr. Greg Rowell

Invoice To: Greg Rowell
-on file-

P.O. No.: RQN:

Project No.: 426847.PP.FW.09
Site Name: NASKW TFS
Location: Boca Chica State: FL
Sampler(s): Nikki Monroe

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= 12=

List preservative code below: 2 3

QA/QC Reporting Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State-specific reporting standards: per contract

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	8260B	8270D	8270 SIM	FL-PRO					QA/QC Reporting Notes
-01	Q3-TFS-MW-01	1-15-13	1040			3	3			X	X	X	X					
-02	Q3-TFS-MW-8D	1-15-13	1155			3	3			X	X	X	X					
-03	Q3-TFS-MW-05	1-15-13	1300			3	3			X	X	X	X					
-04	Q3-TFS-MW-04	1-15-13	1350			3	3			X	X	X	X					
-05	Q3-TFS-TB-01	1-15-13	—			2				2								TB
-06	Q3-TFS-MW-11	1-16-13	1025			3	3			X	X	X	X					
-07	Q3-TFS-MW-12	1-16-13	1115			3	3			X	X	X	X					
-08	Q3-TFS-MW-15	1-16-13	1205			3	3			X	X	X	X					
-09	Q3-TFS-MW-15-FD	1-16-13	1210			3	3			X	X	X	X					
-10	Q3-TFS-MW-16	1-16-13	1315			3	3			X	X	X	X					

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature] / CH2M HILL	Fed Ex	1-16-13	1700	3.2
	[signature]	1/17/13	10:04	5.4
				2.8

☒ EDD Format CH2M HILL
☒ E-mail to greg.howell@ch2m.com

PHC 2 8260, FL-PRO

Condition upon receipt:
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

3508006

209

ORIGIN ID: EYWA (504) 593-9421
CH2M HILL
3900 N CAUSEWAY BLVD STE 1250
METAIRIE, LA 700027272
UNITED STATES US

ACTWGT: 61.0 LB MAN
CAD: /POS1322
DIMS: 23x12x12 IN
BILL SENDER

TO
PEL LABS
8405 BENJAMIN RD
STE A
TAMPA FL 33634
(813) 888-9507
INV:
PO:
REF:
DEPT:

FedEx Express
E

1 of 3
TRK# 0200 8022 2537 7540
MASTER
34 TPFA

THU - 17 JAN A1
PRIORITY OVERNIGHT
33634
FL-US TPA

1.800.463.3339

Does this shipment contain dangerous goods?
One box must be checked
☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry ice, 9, UN 1845 ___ x ___ kg
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.
☐ Cargo Aircraft Only

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check
Obtain recip. Acct. No. ☐
[redacted]
Total Packages 3
Total Weight 61 LBS
Credit Card Auth.
644

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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FedEx Express NEW Package US Airbill
FedEx Tracking Number 8022 2537 7540

1 From
Date 1-16-13 [redacted]
Sender's Name Nikki Monroe Phone 504 4731399
Company CH2M HILL
Address 30419 Seagrape Trail
Dept./Floor/Suite/Room
City Big Pine Key State FL ZIP 33043

2 Your Internal Billing Reference 426847.PP.FW.09

3 To
Recipient's Name Sample Receiving Phone 813 888 9507
Company PEL
Address 8405 Benjamin Rd Ste A
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City Tampa State FL ZIP 33634

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3508006

210

ORIGIN ID: EYWA (504) 593-9421
CH2M HILL

3900 N CAUSEWAY BLVD STE 1250

METAIRIE, LA 700027272
UNITED STATES US

SHIP DATE: 16JAN13
ACTWGT: 61.0 LB MAN
CAD: /POS1322
DIMS: 23x12x12 IN

BILL SENDER

TO

PEL LABS
8405 BENJAMIN RD
STE A
TAMPA FL 33634
(813) 888-9507
INV:
PO:
REF:
DEPT:

RT 163 1 A
FZ
3756
01.17

FedEx Express

E

J12201209200125

3 of 3
MPS# 0681 7955 4970 3756
Mstr# 8022 2537 7540
0200

THU - 17 JAN A1
PRIORITY OVERNIGHT

34 TPFA

33634
FL-US TPA

Part # 156297-435 RIT2 10/12

#R44194 01/16 S15G2/7813/9944

ORIGIN ID: EYWA (504) 593-9421
CH2M HILL

3900 N CAUSEWAY BLVD STE 1250

METAIRIE, LA 700027272
UNITED STATES US

SHIP DATE: 16JAN13
ACTWGT: 61.0 LB MAN
CAD: /POS1322
DIMS: 23x12x12 IN

BILL SENDER

TO

PEL LABS
8405 BENJAMIN RD
STE A
TAMPA FL 33634
(813) 888-9507
INV:
PO:
REF:
DEPT:

FedEx Express

E

J12201209200125

2 of 3
MPS# 0681 7955 4970 3745
Mstr# 8022 2537 7540
0200

THU - 17 JAN A1
PRIORITY OVERNIGHT

34 TPFA

33634
FL-US TPA

Part # 156297-435 RIT2 10/12

#R44194 01/16 S15G2/7813/9944

pH LOG SHEET

WO#: 3508006

Client/Project NAS Key West

SampNumber	Method	Matrix		pH	Containers	Temp	Acid	
350800601	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800601	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800602	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800602	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800603	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800603	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800604	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800604	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800605	8260	W	<	2	(2)		HCl	mkeohane 17-Jan-13
350800606	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13

SampNumber	Method	Matrix		pH	Containers	Temp	Acid	
350800606	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800607	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800607	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800608	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800608	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800609	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800609	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13
350800610	8260	W	<	2	(3)		HCl	mkeohane 17-Jan-13
350800610	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 17-Jan-13

Sample Receipt Confirmation Sheet

Client Information

SDG:	3508006	**Level:**	3
Client:	CH2M Hill	**Date Rec'd:**	1/17/2013 10:04:00 AM
Profile:	91013	**Due Date:**	1/31/2013
Project:	Boca Chica Truck Fill Stand - JP-5	**Profile Name:**	NAS Key West

Sample Verification

Samples/Cooler Secure?	Yes	**COC Present?**	Yes
Temperature of Samples:	2.8,5.4	**All Samples on COC accounted For?**	Yes
Number of Coolers Received:	3	**All Samples Rec'd Intact?**	Yes
Temp Gun ID:	101722663	**Sample Vol. Sufficient For Analysis**	Yes
pH Verified?	Yes	**Samples Rec'd W/I Hold Time?**	Yes
pH WNL?	Yes	**Are All Samples to be Analyzed?**	Yes
Samples Received By:	Fed-Ex	**Correct Sample Containers?**	Yes
Tracking Number:	795549703745	**COC Comments written on COC?**	Yes
Profile Picked By:	MG	**Samplers Initials on COC?**	Yes
Soil Origin (Domestic/Foreign):		**Sample Date/Time Indicated?**	Yes
Site Location/Project on COC?	Yes	**TAT Requested:**	STD
Client Project # on COC?	Yes	**Client Requests Verbal Results?**	No
Project Mgr. Indicated on COC?	Yes	**Client Requests Faxed Results?**	No
COC relinquished/Dated by Client?	Yes	**Specific Subcontract Indicated?**	No
COC Received/Dated by SA?	Yes	**Written on Outside Lab Board?**	No
Written on Internal COC?	Yes	**Radioactivity Check?**	No
Lab to Conduct ALL Analyses?	Yes		

Comments

Specific tests noted on COC.

LABEL REVIEW CF

PEER REVIEW CF 1/18/2013

Client: CH2M Hill

WONo: 3508006 Profile Name: NAS Key West Profile #: 91013

MATRIX W

Sample #	Bottle	Parameter		Check	Received	Date
01	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:15 PM
01	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:15 PM
01	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:15 PM
01	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:09 PM
01	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:16 PM
01	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:06 AM
01	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:16 PM
01	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:01 AM
01	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:16 PM
01	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:04 AM
02	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:16 PM
02	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:16 PM
02	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:16 PM
02	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:13 PM
02	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:16 PM
02	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:14 AM
02	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:17 PM
02	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:06 AM
02	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:17 PM
02	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:10 AM
03	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:17 PM
03	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:17 PM
03	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:17 PM
03	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:17 PM
03	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:17 PM

03	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:18 AM
03	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:18 PM
03	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:10 AM
03	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:18 PM
03	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:14 AM
04	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:18 PM
04	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:18 PM
04	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:18 PM
04	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:22 PM
04	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:18 PM
04	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:21 AM
04	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:19 PM
04	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:13 AM
04	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:19 PM
04	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:26 AM
05	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:19 PM
05	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:19 PM
05	002	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:26 PM
06	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:19 PM
06	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:19 PM
06	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:19 PM
06	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:30 PM
06	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:20 PM
06	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:25 AM
06	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:20 PM
06	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:17 AM
06	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:20 PM
06	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:29 AM

07	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:20 PM
07	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:20 PM
07	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:20 PM
07	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:34 PM
07	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:21 PM
07	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:28 AM
07	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:21 PM
07	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:20 AM
07	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:21 PM
07	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:33 AM
08	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:21 PM
08	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:21 PM
08	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:22 PM
08	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:38 PM
08	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:22 PM
08	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:31 AM
08	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:22 PM
08	006	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:24 AM
08	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:22 PM
08	005	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:37 AM
09	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:22 PM
09	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:22 PM
09	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:23 PM
09	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:43 PM
09	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:23 PM
09	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:34 AM
09	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:23 PM
09	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:27 AM

09	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:23 PM
09	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:40 AM
10	001	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:23 PM
10	002	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:23 PM
10	003	8260	Volatile Organic Compounds	In	mkeohane	1/17/2013 12:21:24 PM
10	003	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:49 PM
10	004	8270	GCMS semivolatile	In	mkeohane	1/17/2013 12:21:24 PM
10	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:37 AM
10	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/17/2013 12:21:24 PM
10	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/18/2013 9:37:31 AM
10	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/17/2013 12:21:24 PM
10	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/18/2013 9:38:44 AM

Addendum

310113 1530

Letter of Acceptance

Customer Name:	CH2M Hill
Date and Time Received:	1/17/2013 10:04:00 AM
Date to be Reported:	2/14/2013
Laboratory Submission Number/SDG:	3508006

Project: NASKW TFS 426847.PP.FW.09

Samples: The submission consisted of 10 samples, including QC, with sample identification shown in the attached data tables.

Tests: The Samples will be analyzed for EPA methods: 8260, 8270, 8270_SIM, FL-PRO.

Sample Custody/COC discrepancies:

None.

Notes:

Temp 3.2,5.4,2.8
PH< 2 8260, FL-PRO

Distribution of Report to:

CH2M Hill
Attn: Kama White

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. Spectrum Analytical letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Level: 3

Total of: 37 analyses on 10 samples (including QC) *18-Jan-13*

Report/SDG #: 3508006

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-01	350800601		W	1/15/2013 10:40:00 AM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-8D	350800602		W	1/15/2013 11:55:00 AM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-05	350800603		W	1/15/2013 1:00:00 PM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 3508006

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-04	350800604		W	1/15/2013 1:50:00 PM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-TB-01	350800605		W	1/15/2013	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-11	350800606		W	1/16/2013 10:25:00 AM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-12	350800607		W	1/16/2013 11:15:00 AM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 3508006

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-15	350800608		W	1/16/2013 12:05:00 PM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-15-FD	350800609		W	1/16/2013 12:10:00 PM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-16	350800610		W	1/16/2013 1:15:00 PM	1/17/2013 10:04:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Mark Gudnason [Tampa]

From: Mark Gudnason [Tampa]

Sent: Monday, January 28, 2013 4:12 PM

To: 'Bethany.Garvey@CH2M.com'; Camden.Robinson@CH2M.com; 'Greg.Rowell@CH2M.com'

Subject: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon.
Please note the excursions for the App IX compounds in the LCS associated with the samples for the referenced project and SDGs.

This will be in the case narrative for this run. These samples past the 7 day extraction hold time.

Let me know if you have any questions or if you would like these re-extracted out of hold.

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been historically a poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy)methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). No further action was taken. None of the above compounds were detected in any samples.

Samples coded accordingly.

Mark Gudnason [Tampa]

From: Greg.Rowell@CH2M.com
Sent: Wednesday, January 30, 2013 4:41 PM
To: Mark Gudnason [Tampa]
Subject: FW: NASKW TFS 8270 / 3508006 and 3508012

Mark, do not re-extract.....

From: Robinson, Camden/ATL
Sent: Wednesday, January 30, 2013 4:39 PM
To: Rowell, Greg/ATL; Garvey, Bethany/ATL
Subject: RE: NASKW TFS 8270 / 3508006 and 3508012

You are correct. The analytes listed with low recoveries have been flagged "R" historically, so I would not bother with the re-extraction out of hold time. The high recoveries will be ok, since the sample results were non-detect which means no qualifiers will be needed for those analytes.

Camden L. Robinson

From: Rowell, Greg/ATL
Sent: Wednesday, January 30, 2013 8:42 AM
To: Robinson, Camden/ATL; Garvey, Bethany/ATL
Subject: FW: NASKW TFS 8270 / 3508006 and 3508012

Please advise. I think historically, these analytes have been flagged "R" following validation.

From: Mark Gudnason [Tampa] [mailto:mgudnason@pelab.com]
Sent: Tuesday, January 29, 2013 5:27 PM
To: Garvey, Bethany/ATL; Robinson, Camden/ATL; Rowell, Greg/ATL
Subject: RE: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon,
Would like these re-extracted out of hold?

Mark

From: Mark Gudnason [Tampa]
Sent: Monday, January 28, 2013 4:12 PM
To: 'Bethany.Garvey@CH2M.com'; Camden.Robinson@CH2M.com; 'Greg.Rowell@CH2M.com'
Subject: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon.
Please note the excursions for the App IX compounds in the LCS associated with the samples for the referenced project and SDGs.

This will be in the case narrative for this run. These samples past the 7 day extraction hold time.

Let me know if you have any questions or if you would like these re-extracted out of hold.

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been historically a poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy) methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). No further action was taken. None of the above compounds were detected in any samples.

Samples coded accordingly.

End Of Report

310113 1530

Date Reported:
04-Feb-13

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

CH2M Hill
115 Perimeter Center Place, NE
Suite 700
Atlanta, GA 30346-1278

Attn: Kama White

Project # 3508012
Project: NASKW TFS 426847.PP.FW.09

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
350801201	Q3-TFS-TB-02	W	17-Jan-13 0:00	18-Jan-13 9:50
350801202	Q3-TFS-EB-01	W	17-Jan-13 10:20	18-Jan-13 9:50
350801203	Q3-TFS-MW-17	W	17-Jan-13 11:30	18-Jan-13 9:50
350801204	Q3-TFS-MW-17-MS	W	17-Jan-13 11:35	18-Jan-13 9:50
350801205	Q3-TFS-MW-17-MSD	W	17-Jan-13 11:35	18-Jan-13 9:50

Soil samples are reported on dry weight basis, unless otherwise noted.

Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis.

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Spectrum Analytical.

All applicable NELAC or USEPA CLP requirments have been meet unless noted in the case narrative.

Please contact the laboratory at 813-888-9507 with any questions regarding the data contained in the laboratory report.

Florida	E84207
Texas	T104704408-12-4
South Carolina	96011001
North Dakota	R-178
California	07253CA
Louisiana	02025
Kansas	E-10385
Arkansas	11-036-1

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2259 Testing

Respectfully Submitted,

Brian Spann
Laboratory Director
Spectrum Analytical, Inc. Florida Division

Table of Contents

Organics 3

8260 Volatile Organics 6

8260 Sample Data 11

8260 QC Summary 21

8260 Standards Data 39

8270 SIM Semi-Volatile Organics 48

8270 SIM Sample Data 52

8270 SIM QC Summary 55

8270 SIM Standards Data 69

8270 Semi-Volatile Organics 75

8270 Sample Data 80

8270 QC Summary 89

8270 Standards Data 114

FL-PRO Organics 131

FL-PRO Sample Data 135

FL-PRO QC Summary 138

FL-PRO Standards Data 146

Chain of Custody Documentation 156

Addendum 163

End of Report 171

EXECUTIVE SUMMARY - Detection Highlights

3508012

SAMPLE ID: Q3-TFS-EB-01

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Acetone	3.80 J	10	UG/L	SW8260B
Toluene	3.30	1.0	UG/L	SW8260B
Naphthalene	0.0240 J	0.050	UG/L	SW8270D-SIM

SAMPLE ID: Q3-TFS-MW-17

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
1-Methylnaphthalene	0.0210 J	0.050	UG/L	SW8270D-SIM
Acenaphthene	1.30	0.050	UG/L	SW8270D-SIM
Fluoranthene	0.0380 J	0.050	UG/L	SW8270D-SIM
TPH	1900	500	UG/L	FL-PRO

SAMPLE ID: Q3-TFS-TB-02

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Acetone	4.20 J	10	UG/L	SW8260B
Toluene	3.20	1.0	UG/L	SW8260B

040213 1553

Organics

040213 1553

Organic Data Qualifiers

U Indicates the analyte was analyzed for but not detected. The number adjacent to the "U" qualifier indicates the reporting limit for that analyte. The reporting limit can vary from sample to sample depending on dilution factors or the percent moisture adjustment when indicated.

J Indicates estimated value. It is used when the data indicates the presence of an analyte above the method detection limit (MDL) yet lower than the reporting limit.

B Indicates the analyte was found in the associated blank as well as in the sample. The notation indicates possible contamination of the sample.

E Indicates the value reported is above the highest calibration standard for that analyte. The sample should be analyzed at an appropriate dilution. "E" qualified values are estimations and the diluted result may be reported on another Form 1.

D Indicates the analyte has been identified in a dilution reanalysis. "D" qualifiers are used for samples that have been analyzed at a lesser dilution than required for accurate quantitation.

C The "C" qualifier indicates the presence of this analyte has been confirmed by GC/MS analysis.

P This qualifier is used for pesticide / Aroclor target analytes where there is greater than 25% difference for the detected concentration between the two GC columns.

N This qualifier indicates presumptive evidence of an analyte. This qualifier is only used for tentatively identified compounds (TIC), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" qualifier is not used.

A This qualifier indicates that a TIC is a suspected aldol-condensation product.

X Data flagged as rejected by analyst utilizing analytical judgement.

040213 1553

Organic Sample ID Qualifiers

The qualifiers that may be appended to the lab sample ID and/or the client sample ID for organic analysis are defined below:

DL Diluted reanalysis. Indicates that the results of the original analysis of the sample contained compounds that exceeded the calibration range. The sample was diluted and reanalyzed. May be followed by a digit to indicate multiple dilutions of the sample. The results of more than one diluted reanalysis may be reported.

R Reanalysis. The extract was reanalyzed without re-extraction. The "R" is not used if the sample was also re-extracted. May be followed by a digit to indicate multiple reanalysis of the sample at the same dilution.

RE Re-extracted. The extract was reanalyzed with re-extraction. May be followed by a digit to indicate multiple re-extraction of the same sample at the same dilution.

MS Matrix spike (may be followed by a digit to indicate multiple matrix within a sample set).

SD Matrix spike duplicate (may be followed by a digit to indicate multiple matrix spike duplicate within a sample set).

040213 1553

8260 Volatile Organics

040213 1553

CASE NARRATIVE
Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8260B

IV. PREPARATION

Water samples were prepared by SW846/5030 for EPA8260B volatiles analysis. All aspects of sample preparation proceeded without exception.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met with the exception of:

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

LCS 012513LCS11D was analyzed with the water samples on 01/25/13. The following analyte(s) exceeded RPD criteria: Acetone at 30.4 % with criteria of (20). No further action was taken, since all percent recovery criteria were met.

Samples coded accordingly.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met with the exception of:

MS - Q3-TFS-MW-17-MS was analyzed with the water samples on 01/25/13. The following analyte(s) were recovered below criteria: 1,4-Dichloro-2-butene at 67.8 % with criteria of (68-115) and the following analyte(s) were recovered above criteria:2-Hexanone at 138 % with criteria of (55-130).

SD - Q3-TFS-MW-17-MSD was analyzed with the water samples on 01/25/13. The following analyte(s) were recovered above criteria: 2-Hexanone at 156 % with criteria of (55-130), Ethyl methacrylate at 128 % with criteria of (73-121). The following analyte(s) exceeded RPD criteria:1,4-Dichloro-2-butene at 27.1 % with criteria of (20), Ethyl methacrylate at 20.8 % with criteria of (20).

No further action was taken. Samples coded accordingly.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

Analytes were detected in Equipment Blank Q3-TFS-EB-01. The following analyte(s) were detected below RL: Acetone at 3.8 ug/L. The following analyte(s) were detected above RL: Toluene at 3.3 ug/L.

Analytes were detected in Trip Blank Q3-TFS-TB-02. The following analyte(s) were detected below RL: Acetone at 4.2 ug/L. The following analyte(s) were detected above RL: Toluene at 3.2 ug/L.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

CASE NARRATIVE
Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

Signature:
Name: Brian C. Spanh Title: Lab Director

SIGNED: DATE: 01/28/2013

VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Method: 8260

EPA Sample No	Lab Sample ID
Q3-TFS-TB-02	350801201
Q3-TFS-EB-01	350801202
Q3-TFS-MW-17	350801203

040213 1553

8260 Sample Data

040213 1553

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	4.2	J	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	3.2		0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-TB-02

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801201 Lab File ID: 801201.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2148

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

040213 1553

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	3.8	J	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	3.3		0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 801202.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2210

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

040213 1553

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5

040213 1553

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 801203.D

Sample wt/vol: 5 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 2233

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

040213 1553

Form I

8260 QC Summary

040213 1553

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 012513BLK12 Lab File ID: BLK12.D

Sample wt/vol: 5 Units: ML Date Received: 01/25/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1739

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
75-71-8	Dichlorodifluoromethane	1.2	U	0.6	1.2	1.2
74-87-3	Chloromethane	0.64	U	0.32	0.64	1
75-01-4	Vinyl chloride	0.36	U	0.18	0.36	1
74-83-9	Bromomethane	0.86	U	0.43	0.86	1
75-00-3	Chloroethane	1.4	U	0.72	1.4	1.4
75-69-4	Trichlorofluoromethane	0.8	U	0.4	0.8	1
75-35-4	1,1-Dichloroethene	0.38	U	0.19	0.38	0.5
107-02-8	Acrolein	8	U	4	8	10
74-88-4	Methyl iodide	1.5	U	0.74	1.5	1.5
75-15-0	Carbon disulfide	0.38	U	0.19	0.38	1
75-09-2	Methylene chloride	1.3	U	0.66	1.3	5
156-60-5	trans-1,2-Dichloroethene	0.66	U	0.33	0.66	0.66
107-13-1	Acrylonitrile	4	U	2	4	4
75-34-3	1,1-Dichloroethane	1	U	0.5	1	1
67-64-1	Acetone	2.6	U	1.3	2.6	10
78-93-3	2-Butanone	4	U	2	4	4
67-66-3	Chloroform	0.32	U	0.16	0.32	0.5
71-55-6	1,1,1-Trichloroethane	0.28	U	0.14	0.28	1
56-23-5	Carbon tetrachloride	0.28	U	0.14	0.28	0.5
71-43-2	Benzene	0.34	U	0.17	0.34	0.5
107-06-2	1,2-Dichloroethane	0.3	U	0.15	0.3	0.5
79-01-6	Trichloroethene	0.38	U	0.19	0.38	0.5
108-05-4	Vinyl acetate	0.36	U	0.18	0.36	1
78-87-5	1,2-Dichloropropane	0.3	U	0.15	0.3	1
74-95-3	Dibromomethane	0.8	U	0.4	0.8	1
75-27-4	Bromodichloromethane	0.3	U	0.15	0.3	0.5
10061-01-5	cis-1,3-Dichloropropene	0.8	U	0.4	0.8	1

040213 1553

Form I

1

VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 012513BLK12 Lab File ID: BLK12.D

Sample wt/vol: 5 Units: ML Date Received: 01/25/13

Concentrated Extract Volume: 5 Date Extracted:

Level:(low/med) LOW Date Analyzed: 01/25/13 Time: 1739

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: PURGETRAP Station ID: Method: 8260

GPC Cleanup : (Y/N) pH:

Column(1): DB-624 ID: 0.18 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
108-10-1	4-Methyl-2-pentanone	2	U	1	2	4
108-88-3	Toluene	0.28	U	0.14	0.28	1
10061-02-6	trans-1,3-Dichloropropene	0.6	U	0.3	0.6	1
97-63-2	Ethyl methacrylate	1	U	0.5	1	1
79-00-5	1,1,2-Trichloroethane	0.4	U	0.2	0.4	1
127-18-4	Tetrachloroethene	0.42	U	0.21	0.42	0.5
591-78-6	2-Hexanone	0.96	U	0.48	0.96	4
124-48-1	Dibromochloromethane	0.26	U	0.13	0.26	0.5
106-93-4	1,2-Dibromoethane	0.22	U	0.11	0.22	1
108-90-7	Chlorobenzene	0.32	U	0.16	0.32	0.5
630-20-6	1,1,1,2-Tetrachloroethane	0.28	U	0.14	0.28	0.5
100-41-4	Ethylbenzene	0.44	U	0.22	0.44	0.5
100-42-5	Styrene	0.26	U	0.13	0.26	1
75-25-2	Bromoform	0.38	U	0.19	0.38	1
79-34-5	1,1,2,2-Tetrachloroethane	0.26	U	0.13	0.26	0.26
96-18-4	1,2,3-Trichloropropane	0.7	U	0.35	0.7	1
96-12-8	1,2-Dibromo-3-chloropropane	2	U	1	2	2
110-57-6	1,4-Dichloro-2-butene	4	U	2	4	4
75-05-8	Acetonitrile	20	U	10	20	20
107-05-1	Allyl chloride	0.48	U	0.24	0.48	1
123-91-1	1,4-Dioxane	20	U	10	20	40
78-83-1	Isobutyl alcohol	40	U	20	40	40
126-98-7	Methacrylonitrile	2	U	1	2	10
80-62-6	Methyl methacrylate	0.36	U	0.18	0.36	1
107-12-0	Propionitrile	20	U	10	20	20
126-99-8	Chloroprene	0.4	U	0.2	0.4	1
1330-20-7	Xylene (total)	1	U	0.5	1	2

4

VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

012513BLK12

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID: BLK12.D Lab Sample ID: 012513BLK12

Instrument ID: VMS01 Date Extracted:

Matrix: WATER Date Analyzed: 01/25/13

Level:(low/med) LOW Time Analyzed: 1739

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609
2	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632
3	Q3-TFS-TB-02	350801201	801201.D	01/25/13	2148
4	Q3-TFS-EB-01	350801202	801202.D	01/25/13	2210
5	Q3-TFS-MW-17	350801203	801203.D	01/25/13	2233
6	Q3-TFS-MW-17-MS	350801204	801204MS.D	01/25/13	2256
7	Q3-TFS-MW-17-MSD	350801205	801205SDR.D	01/25/13	2341

COMMENTS:

Page 1 of 1

040213 1553

Form IV

2A

WATER VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508012

Column(1): DB-624 ID: 0.18 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
012513BLK12	98.8	99.4	102.0	103.0			0
012513LCS11	100.0	103.0	105.0	101.0			0
012513LCS11D	101.0	102.0	104.0	98.8			0
Q3-TFS-EB-01	103.0	102.0	102.0	105.0			0
Q3-TFS-MW-17	98.6	103.0	106.0	105.0			0
Q3-TFS-MW-17-MS	98.8	103.0	101.0	103.0			0
Q3-TFS-MW-17-MSD	98.8	103.0	102.0	102.0			0
Q3-TFS-TB-02	102.0	102.0	103.0	104.0			0

Control Limits

S1	=	Dibromofluoromethane	85 - 115
S2	=	Toluene-d8	85 - 120
S3	=	4-Bromofluorobenzene	75 - 120
S4	=	1,2-Dichloroethane-d4	70 - 120

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

040213 1553

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: BFB11.D BFB Injection Date: 01/25/13

Instrument ID: VMS01 BFB Injection Time: 0644

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	15.4	
75	30.0 - 60.0% of mass 95	45.1	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	7	
173	Less than 2.0% of mass 174	0.8	(0.91)1
174	50.0 - 100.0% of mass 95	87	
175	5.0 - 9.0% of mass 174	6.4	(7.38)1
176	95.0 - 101% of mass 174	83.2	(95.64)1
177	5.0 - 9.0% of mass 176	5.7	(6.82)2

1-Value is % of mass 174

2-Value is % of mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1147383	200PPT	200PPT.D	01/25/13	0719
2	STD1147402	500PPT	500PPT.D	01/25/13	0741
3	STD1147382	1PPB	1PPB.D	01/25/13	0804
4	STD1147385	2PPB	2PPB.D	01/25/13	0826
5	STD1147404	5PPB	5PPB.D	01/25/13	0849
6	STD1147381	10PPB	10PPB.D	01/25/13	0911
7	STD1147384	20PPB	20PPB.D	01/25/13	0934
8	STD1147403	50PPB	50PPB.D	01/25/13	0956
9	STD1147406	80PPB	80PPB.D	01/25/13	1041
10	STD1147405	60PPB	60PPBR1.D	01/25/13	1251
11	SSC1147407	SEC13	SEC13.D	01/25/13	1336

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: BFB12.D BFB Injection Date: 01/25/13

Instrument ID: VMS01 BFB Injection Time: 1417

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	15.8	
75	30.0 - 60.0% of mass 95	44.2	
95	Base Peak, 100% relative abundance	100	
96	5.0 - 9.0% of mass 95	6.7	
173	Less than 2.0% of mass 174	0.7	(0.84)1
174	50.0 - 100.0% of mass 95	87.6	
175	5.0 - 9.0% of mass 174	6.1	(6.97)1
176	95.0 - 101% of mass 174	84.8	(96.86)1
177	5.0 - 9.0% of mass 176	5.6	(6.66)2

1-Value is % of mass 174

2-Value is % of mass 176

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1147377	012513CCV12	50CCV12.D	01/25/13	1547
2	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609
3	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632
4	012513BLK12	012513BLK12	BLK12.D	01/25/13	1739
5	Q3-TFS-TB-02	350801201	801201.D	01/25/13	2148
6	Q3-TFS-EB-01	350801202	801202.D	01/25/13	2210
7	Q3-TFS-MW-17	350801203	801203.D	01/25/13	2233
8	Q3-TFS-MW-17-MS	350801204	801204MS.D	01/25/13	2256
9	Q3-TFS-MW-17-MSD	350801205	801205SDR.	01/25/13	2341

8A

VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID (Standard): 50PPB.D Date Analyzed: 1/25/2013

Instrument ID: VMS01 Time Analyzed: 9:56

GC Column: DB-624 ID: 0.18 (mm)

Matrix: (soil/water) W Heated Purge: (Y/N) No

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	2373514		6.62	1928146		9.15	1043833		10.54
	UPPER LIMIT	4747028		7.12	3856292		9.65	2087666		11.04
	LOWER LIMIT	1186757		6.12	964073		8.65	521916.5		10.04
	EPA SAMPLE NO.									
1	012513LCS11	2616634		6.62	2057148		9.15	1095730		10.54
2	012513LCS11D	2580648		6.62	2038113		9.15	1079724		10.54
3	012513BLK12	2607277		6.62	2051536		9.15	1029006		10.54
4	Q3-TFS-TB-02	2393435		6.62	1866963		9.15	960310		10.54
5	Q3-TFS-EB-01	2421586		6.62	1915136		9.15	972217		10.54
6	Q3-TFS-MW-17	2504159		6.62	1950203		9.15	997064		10.54
7	Q3-TFS-MW-17-MS	2518437		6.62	1993119		9.15	1081396		10.54
8	Q3-TFS-MW-17-MSD	2748571		6.62	2188701		9.15	1174313		10.54

IS1 = Fluorobenzene

IS2 = Chlorobenzene-d5

IS3 = 1,4-Dichlorobenzene-d4

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

040213 1553

FORM VIII

8

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: DB-624 ID: 0.18 (mm) Init. Calib. Date: 01/25/13

Instrument ID: VMS01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 5.88 S2 : 8.12 S3 : 9.88 S4 : 6.25

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	012513BFB11	012513BFB11	BFB11.D	01/25/13	0644				
2	STD1147383	200PPT	200PPT.D	01/25/13	0719				6.26
3	STD1147402	500PPT	500PPT.D	01/25/13	0741				6.25
4	STD1147382	1PPB	1PPB.D	01/25/13	0804				
5	STD1147385	2PPB	2PPB.D	01/25/13	0826				
6	STD1147404	5PPB	5PPB.D	01/25/13	0849	5.88	8.12	9.88	6.25
7	STD1147381	10PPB	10PPB.D	01/25/13	0911	5.88	8.12	9.88	6.25
8	STD1147384	20PPB	20PPB.D	01/25/13	0934	5.88	8.12	9.88	6.25
9	STD1147403	50PPB	50PPB.D	01/25/13	0956	5.88	8.12	9.88	6.25
10	STD1147406	80PPB	80PPB.D	01/25/13	1041				
11	STD1147405	60PPB	60PPBR1.D	01/25/13	1251	5.88	8.12	9.88	6.25
12	SSC1147407	SEC13	SEC13.D	01/25/13	1336	5.87	8.12	9.88	6.25
13	012513BFB12	012513BFB12	BFB12.D	01/25/13	1417				
14	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1439				
15	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1524				
16	CCV1147377	012513CCV12	50CCV12.D	01/25/13	1547	5.88	8.12	9.88	6.25
17	012513LCS11	012513LCS11	LCS11.D	01/25/13	1609	5.88	8.12	9.88	6.25
18	012513LCS11D	012513LCS11D	LCS11D.D	01/25/13	1632	5.88	8.12	9.88	6.25
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1654				
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1717				
21	012513BLK12	012513BLK12	BLK12.D	01/25/13	1739	5.88	8.12	9.88	6.25
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1802				
23	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1824				
24	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1847				
25	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1909				
26	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1932				

			QC LIMITS
S1	=	Dibromofluoromethane	(+/- 0.4 MINUTES)
S2	=	Toluene-d8	(+/- 0.4 MINUTES)
S3	=	4-Bromofluorobenzene	(+/- 0.63 MINUTES)
S4	=	1,2-Dichloroethane-d4	(+/- 0.4 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

Page 1 of 2

8

VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: DB-624 ID: 0.18 (mm) Init. Calib. Date: 01/25/13

Instrument ID: VMS01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 5.88 S2 : 8.12 S3 : 9.88 S4 : 6.25

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
27	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	1954				
28	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2017				
29	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2039				
30	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2102				
31	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2125				
32	Q3-TFS-TB-02	350801201	801201.D	01/25/13	2148	5.88	8.12	9.88	6.25
33	Q3-TFS-EB-01	350801202	801202.D	01/25/13	2210	5.88	8.12	9.88	6.25
34	Q3-TFS-MW-17	350801203	801203.D	01/25/13	2233	5.88	8.12	9.88	6.25
35	Q3-TFS-MW-17-MS	350801204	801204MS.D	01/25/13	2256	5.88	8.12	9.88	6.25
36	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/25/13	2318				
37	Q3-TFS-MW-17-MSD	350801205	801205SDR.D	01/25/13	2341	5.88	8.12	9.88	6.25

			QC LIMITS
S1	=	Dibromofluoromethane	(+/- 0.4 MINUTES)
S2	=	Toluene-d8	(+/- 0.4 MINUTES)
S3	=	4-Bromofluorobenzene	(+/- 0.63 MINUTES)
S4	=	1,2-Dichloroethane-d4	(+/- 0.4 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	18	90.0			30 - 155
Chloromethane	20	18.4	92.0			40 - 125
Vinyl chloride	20	20.8	104.0			50 - 145
Bromomethane	20	25.3	126.0			30 - 145
Chloroethane	20	20.3	102.0			60 - 135
Trichlorofluoromethane	20	20.4	102.0			60 - 145
1,1-Dichloroethene	20	19.4	97.0			70 - 130
Acrolein	40	41.9	105.0			31 - 148
Methyl iodide	20	19.1	95.5			75 - 152
Carbon disulfide	20	20.4	102.0			35 - 160
Methylene chloride	20	21.1	106.0			55 - 140
trans-1,2-Dichloroethene	20	20.1	100.0			60 - 140
Acrylonitrile	40	39.6	99.0			55 - 126
1,1-Dichloroethane	20	20.7	104.0			70 - 135
Acetone	40	31.8	79.5			40 - 140
2-Butanone	40	38.5	96.2			30 - 150
Chloroform	20	20.3	102.0			65 - 135
1,1,1-Trichloroethane	20	21.4	107.0			65 - 130
Carbon tetrachloride	20	21.3	106.0			65 - 140
Benzene	20	21.2	106.0			80 - 120
1,2-Dichloroethane	20	19.6	98.0			70 - 130
Trichloroethene	20	20.6	103.0			70 - 125
Vinyl acetate	20	21.7	108.0			77 - 150
1,2-Dichloropropane	20	20.7	104.0			75 - 125
Dibromomethane	20	20	100.0			75 - 125
Bromodichloromethane	20	20.3	102.0			75 - 120
cis-1,3-Dichloropropene	20	19.5	97.5			70 - 130
4-Methyl-2-pentanone	40	43.5	109.0			60 - 135
Toluene	20	22.2	111.0			75 - 120
trans-1,3-Dichloropropene	20	20.6	103.0			55 - 140
Ethyl methacrylate	20	22.1	110.0			73 - 121
1,1,2-Trichloroethane	20	20	100.0			75 - 125

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	20	20.9	104.0			45 - 150
2-Hexanone	40	40.4	101.0			55 - 130
Dibromochloromethane	20	21.4	107.0			60 - 135
1,2-Dibromoethane	20	20.4	102.0			80 - 120
Chlorobenzene	20	20.8	104.0			80 - 120
1,1,1,2-Tetrachloroethane	20	21	105.0			80 - 130
Ethylbenzene	20	21.6	108.0			75 - 125
Styrene	20	22.1	110.0			65 - 135
Bromoform	20	21.1	106.0			70 - 130
1,1,2,2-Tetrachloroethane	20	20.2	101.0			65 - 130
1,2,3-Trichloropropane	20	20.8	104.0			75 - 125
1,2-Dibromo-3-chloropropane	20	21.2	106.0			50 - 130
1,4-Dichloro-2-butene	40	43.1	108.0			68 - 115
Acetonitrile	200	203	102.0			37 - 122
Allyl chloride	20	20.3	102.0			70 - 130
1,4-Dioxane	400	451	113.0			0 - 167
Isobutyl alcohol	400	390	97.5			70 - 130
Methacrylonitrile	200	210	105.0			70 - 130
Methyl methacrylate	20	21	105.0			33 - 172
Propionitrile	200	213	106.0			70 - 130
Chloroprene	20	21.8	109.0			70 - 130
Xylene (total)	60	67.3	112.0			82 - 124

Spike Recovery: 0 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11D

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	17.6	88.0	2.2	20	30 - 155
Chloromethane	20	18.3	91.5	0.5	20	40 - 125
Vinyl chloride	20	19.4	97.0	7.0	20	50 - 145
Bromomethane	20	23.4	117.0	7.8	20	30 - 145
Chloroethane	20	19.1	95.5	6.1	20	60 - 135
Trichlorofluoromethane	20	20.1	100.0	1.5	20	60 - 145
1,1-Dichloroethene	20	19.1	95.5	1.6	20	70 - 130
Acrolein	40	40.2	100.0	4.1	20	31 - 148
Methyl iodide	20	18.6	93.0	2.7	20	75 - 152
Carbon disulfide	20	19.6	98.0	4.0	20	35 - 160
Methylene chloride	20	20.7	104.0	1.9	20	55 - 140
trans-1,2-Dichloroethene	20	19.4	97.0	3.5	20	60 - 140
Acrylonitrile	40	38.1	95.2	3.9	20	55 - 126
1,1-Dichloroethane	20	20.7	104.0	0.0	20	70 - 135
Acetone	40	23.4	58.5	30.4 *	20	40 - 140
2-Butanone	40	33	82.5	15.4	20	30 - 150
Chloroform	20	20.1	100.0	1.0	20	65 - 135
1,1,1-Trichloroethane	20	20.8	104.0	2.8	20	65 - 130
Carbon tetrachloride	20	20.7	104.0	2.9	20	65 - 140
Benzene	20	20.4	102.0	3.8	20	80 - 120
1,2-Dichloroethane	20	19.6	98.0	0.0	20	70 - 130
Trichloroethene	20	20.7	104.0	0.5	20	70 - 125
Vinyl acetate	20	21.4	107.0	1.4	20	77 - 150
1,2-Dichloropropane	20	20.4	102.0	1.5	20	75 - 125
Dibromomethane	20	19.3	96.5	3.6	20	75 - 125
Bromodichloromethane	20	19.9	99.5	2.0	20	75 - 120
cis-1,3-Dichloropropene	20	18.7	93.5	4.2	20	70 - 130
4-Methyl-2-pentanone	40	42.6	106.0	2.1	20	60 - 135
Toluene	20	21.5	108.0	3.2	20	75 - 120
trans-1,3-Dichloropropene	20	19.8	99.0	4.0	20	55 - 140
Ethyl methacrylate	20	21.4	107.0	3.2	20	73 - 121
1,1,2-Trichloroethane	20	20	100.0	0.0	20	75 - 125

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 012513LCS11D

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Tetrachloroethene	20	20.6	103.0	1.4	20	45 - 150
2-Hexanone	40	37.8	94.5	6.6	20	55 - 130
Dibromochloromethane	20	20.9	104.0	2.4	20	60 - 135
1,2-Dibromoethane	20	19.9	99.5	2.5	20	80 - 120
Chlorobenzene	20	20.4	102.0	1.9	20	80 - 120
1,1,1,2-Tetrachloroethane	20	20.5	102.0	2.4	20	80 - 130
Ethylbenzene	20	21.5	108.0	0.5	20	75 - 125
Styrene	20	21.4	107.0	3.2	20	65 - 135
Bromoform	20	20.6	103.0	2.4	20	70 - 130
1,1,2,2-Tetrachloroethane	20	20	100.0	1.0	20	65 - 130
1,2,3-Trichloropropane	20	21.1	106.0	1.4	20	75 - 125
1,2-Dibromo-3-chloropropane	20	21.2	106.0	0.0	20	50 - 130
1,4-Dichloro-2-butene	40	39.7	99.2	8.2	20	68 - 115
Acetonitrile	200	202	101.0	0.5	20	37 - 122
Allyl chloride	20	20.2	101.0	0.5	20	70 - 130
1,4-Dioxane	400	450	112.0	0.2	20	0 - 167
Isobutyl alcohol	400	364	91.0	6.9	20	70 - 130
Methacrylonitrile	200	206	103.0	1.9	20	70 - 130
Methyl methacrylate	20	20.6	103.0	1.9	20	33 - 172
Propionitrile	200	202	101.0	5.3	20	70 - 130
Chloroprene	20	21.3	106.0	2.3	20	70 - 130
Xylene (total)	60	65	108.0	3.5	20	82 - 124

Spike Recovery: 0 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
Dichlorodifluoromethane	20	0	16	82.0	30 - 155
Chloromethane	20	0	18	88.5	40 - 125
Vinyl chloride	20	0	19	95.0	50 - 145
Bromomethane	20	0	17	84.5	30 - 145
Chloroethane	20	0	20	102.0	60 - 135
Trichlorofluoromethane	20	0	19	97.0	60 - 145
1,1-Dichloroethene	20	0	18	89.5	70 - 130
Acrolein	40	0	29	73.2	31 - 148
Methyl iodide	20	0	26	130.0	75 - 152
Carbon disulfide	20	0	21	105.0	35 - 160
Methylene chloride	20	0	19	95.5	55 - 140
trans-1,2-Dichloroethene	20	0	19	94.0	60 - 140
Acrylonitrile	40	0	35	88.5	55 - 126
1,1-Dichloroethane	20	0	20	98.5	70 - 135
Acetone	40	0	20	51.0	40 - 140
2-Butanone	40	0	32	78.8	30 - 150
Chloroform	20	0	21	104.0	65 - 135
1,1,1-Trichloroethane	20	0	19	96.0	65 - 130
Carbon tetrachloride	20	0	20	102.0	65 - 140
Benzene	20	0	20	98.5	80 - 120
1,2-Dichloroethane	20	0	19	94.0	70 - 130
Trichloroethene	20	0	18	92.0	70 - 125
Vinyl acetate	20	0	18	89.0	77 - 150
1,2-Dichloropropane	20	0	20	97.5	75 - 125
Dibromomethane	20	0	19	94.0	75 - 125
Bromodichloromethane	20	0	20	98.5	75 - 120
cis-1,3-Dichloropropene	20	0	18	88.5	70 - 130
4-Methyl-2-pentanone	40	0	45	112.0	60 - 135
Toluene	20	0	21	105.0	75 - 120
trans-1,3-Dichloropropene	20	0	18	89.5	55 - 140

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
Ethyl methacrylate	20	0	21	104.0	73 - 121
1,1,2-Trichloroethane	20	0	19	94.0	75 - 125
Tetrachloroethene	20	0	19	96.5	45 - 150
2-Hexanone	40	0	55	138.0*	55 - 130
Dibromochloromethane	20	0	21	105.0	60 - 135
1,2-Dibromoethane	20	0	20	97.5	80 - 120
Chlorobenzene	20	0	19	96.0	80 - 120
1,1,1,2-Tetrachloroethane	20	0	20	98.0	80 - 130
Ethylbenzene	20	0	20	99.0	75 - 125
Styrene	20	0	21	103.0	65 - 135
Bromoform	20	0	20	101.0	70 - 130
1,1,2,2-Tetrachloroethane	20	0	20	98.0	65 - 130
1,2,3-Trichloropropane	20	0	20	97.5	75 - 125
1,2-Dibromo-3-chloropropane	20	0	20	99.0	50 - 130
1,4-Dichloro-2-butene	40	0	27	67.8*	68 - 115
Acetonitrile	200	0	180	92.0	37 - 122
Allyl chloride	20	0	18	92.0	70 - 130
1,4-Dioxane	400	0	450	112.0	0 - 167
Isobutyl alcohol	400	0	350	86.5	70 - 130
Methacrylonitrile	200	0	200	98.5	70 - 130
Methyl methacrylate	20	0	21	106.0	33 - 172
Propionitrile	200	0	200	98.5	70 - 130
Chloroprene	20	0	19	96.0	70 - 130
Xylene (total)	60	0	62	104.0	82 - 124

Spike Recovery: 2 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268 Q3-TFS-MW-17-MSD

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dichlorodifluoromethane	20	16	79.0	3.7	20	30 - 155
Chloromethane	20	17	86.0	2.9	20	40 - 125
Vinyl chloride	20	19	94.5	0.5	20	50 - 145
Bromomethane	20	17	83.5	1.2	20	30 - 145
Chloroethane	20	20	98.0	3.5	20	60 - 135
Trichlorofluoromethane	20	19	95.0	2.1	20	60 - 145
1,1-Dichloroethene	20	21	104.0	15.0	20	70 - 130
Acrolein	40	35	87.0	17.2	20	31 - 148
Methyl iodide	20	29	146.0	11.9	20	75 - 152
Carbon disulfide	20	24	119.0	12.5	20	35 - 160
Methylene chloride	20	22	108.0	12.7	20	55 - 140
trans-1,2-Dichloroethene	20	21	107.0	12.9	20	60 - 140
Acrylonitrile	40	42	104.0	16.1	20	55 - 126
1,1-Dichloroethane	20	23	113.0	13.7	20	70 - 135
Acetone	40	23	57.5	12.0	20	40 - 140
2-Butanone	40	38	94.5	18.2	20	30 - 150
Chloroform	20	24	119.0	13.0	20	65 - 135
1,1,1-Trichloroethane	20	23	114.0	17.1	20	65 - 130
Carbon tetrachloride	20	24	118.0	14.6	20	65 - 140
Benzene	20	23	114.0	14.2	20	80 - 120
1,2-Dichloroethane	20	22	108.0	13.4	20	70 - 130
Trichloroethene	20	22	108.0	16.5	20	70 - 125
Vinyl acetate	20	21	106.0	17.0	20	77 - 150
1,2-Dichloropropane	20	23	114.0	15.2	20	75 - 125
Dibromomethane	20	22	110.0	15.7	20	75 - 125
Bromodichloromethane	20	23	116.0	16.3	20	75 - 120
cis-1,3-Dichloropropene	20	21	104.0	16.6	20	70 - 130
4-Methyl-2-pentanone	40	54	135.0	18.6	20	60 - 135
Toluene	20	24	120.0	12.9	20	75 - 120
trans-1,3-Dichloropropene	20	22	108.0	19.2	20	55 - 140

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268 Q3-TFS-MW-17-MSD

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ethyl methacrylate	20	26	128.0*	20.8 *	20	73 - 121
1,1,2-Trichloroethane	20	22	110.0	15.7	20	75 - 125
Tetrachloroethene	20	22	112.0	14.4	20	45 - 150
2-Hexanone	40	62	156.0*	12.2	20	55 - 130
Dibromochloromethane	20	25	123.0	15.8	20	60 - 135
1,2-Dibromoethane	20	23	114.0	16.0	20	80 - 120
Chlorobenzene	20	22	110.0	13.1	20	80 - 120
1,1,1,2-Tetrachloroethane	20	23	115.0	16.0	20	80 - 130
Ethylbenzene	20	23	115.0	15.0	20	75 - 125
Styrene	20	24	120.0	15.7	20	65 - 135
Bromoform	20	24	122.0	18.4	20	70 - 130
1,1,2,2-Tetrachloroethane	20	23	116.0	16.8	20	65 - 130
1,2,3-Trichloropropane	20	23	114.0	15.6	20	75 - 125
1,2-Dibromo-3-chloropropane	20	24	121.0	20.0	20	50 - 130
1,4-Dichloro-2-butene	40	36	89.0	27.1 *	20	68 - 115
Acetonitrile	200	210	106.0	14.6	20	37 - 122
Allyl chloride	20	21	106.0	14.6	20	70 - 130
1,4-Dioxane	400	540	134.0	18.1	20	0 - 167
Isobutyl alcohol	400	400	99.5	14.0	20	70 - 130
Methacrylonitrile	200	240	118.0	18.4	20	70 - 130
Methyl methacrylate	20	25	125.0	16.9	20	33 - 172
Propionitrile	200	240	118.0	18.4	20	70 - 130
Chloroprene	20	22	109.0	12.7	20	70 - 130
Xylene (total)	60	72	120.0	14.5	20	82 - 124

RPD: 2 out of 54 outside limits

Spike Recovery: 2 out of 54 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

8260 Standards Data

040213 1554

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF0.2 =200PPT.D RRF0.5 =500PPT.D
RRF1 =1PPB.D RRF2 =2PPB.D RRF5 =5PPB.D

COMPOUND	RRF0.2	RRF0.5	RRF1	RRF2	RRF5	$\overline{RRF}$	%RSD OR R^2	RSD
Dichlorodifluoromethane			0.298	0.313	0.353			
Chloromethane	#		0.401	0.354	0.351		#	
Vinyl chloride	*	0.374	0.290	0.285	0.350		*	
Bromomethane			0.181	0.170	0.167			
Chloroethane			0.246	0.207	0.213			
Trichlorofluoromethane			0.319	0.327	0.384			
1,1-Dichloroethene	*	0.457	0.389	0.355	0.358		*	
Acrolein			0.055	0.056	0.058			
Methyl iodide			0.198	0.211	0.327			
Carbon disulfide			0.798	0.694	0.694			
Methylene chloride			0.515	0.405	0.365			
trans-1,2-Dichloroethene		0.413	0.398	0.341	0.350			
Acrylonitrile			0.151	0.122	0.136			
1,1-Dichloroethane	#		0.475	0.426	0.451		#	
Acetone			0.294	0.208	0.188			
2-Butanone				0.136	0.153			
Chloroform	* 0.433	0.514	0.518	0.466	0.511		*	
1,1,1-Trichloroethane			0.329	0.303	0.333			
Carbon tetrachloride		0.317	0.268	0.258	0.281			
Benzene	1.011	1.104	1.092	0.942	1.027			
1,2-Dichloroethane		0.385	0.355	0.353	0.365			
Trichloroethene		0.310	0.289	0.260	0.297			
Vinyl acetate			0.654	0.586	0.636			
1,2-Dichloropropane	*	0.281	0.300	0.263	0.277		*	
Dibromomethane			0.218	0.198	0.207			
Bromodichloromethane	0.357	0.334	0.366	0.332	0.355			
cis-1,3-Dichloropropene		0.272	0.283	0.292	0.308			
4-Methyl-2-pentanone				0.082	0.092			
Toluene	*	0.629	0.566	0.512	0.611		*	
trans-1,3-Dichloropropene		0.237	0.291	0.239	0.284			
Ethyl methacrylate			0.309	0.247	0.272			
1,1,2-Trichloroethane		0.276	0.294	0.282	0.280			
Tetrachloroethene		0.295	0.295	0.254	0.278			
2-Hexanone				0.213	0.251			

040213 1554

FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF0.2 =200PPT.D RRF0.5 =500PPT.D
RRF1 =1PPB.D RRF2 =2PPB.D RRF5 =5PPB.D

COMPOUND	RRF0.2	RRF0.5	RRF1	RRF2	RRF5	$\overline{RRF}$	%RSD OR R^2	RSD
Dibromochloromethane	0.299	0.316	0.347	0.325	0.361			
1,2-Dibromoethane			0.384	0.349	0.368			
Chlorobenzene	#	1.125	1.048	0.954	1.016		#	
1,1,1,2-Tetrachloroethane		0.322	0.323	0.308	0.335			
Ethylbenzene	*	0.491	0.513	0.424	0.474		*	
Styrene			0.842	0.737	0.888			
Bromoform	#		0.233	0.213	0.220		#	
1,1,2,2-Tetrachloroethane	# 0.840	1.098	1.121	0.997	1.008		#	
1,2,3-Trichloropropane			0.272	0.288	0.287			
1,2-Dibromo-3-chloropropane				0.133	0.134			
1,4-Dichloro-2-butene			0.110	0.100	0.108			
Acetonitrile			0.074	0.067	0.067			
Allyl chloride			0.744	0.668	0.673			
1,4-Dioxane			0.001	0.002	0.003			
Isobutyl alcohol				0.004	0.004			
Methacrylonitrile			0.130	0.119	0.130			
Methyl methacrylate			0.172	0.164	0.171			
Propionitrile			0.043	0.038	0.045			
Chloroprene			0.309	0.277	0.284			
o-Xylene		1.153	1.100	0.979	1.116			
p,m-Xylene	0.440	0.591	0.561	0.512	0.564			
==========								
Dibromofluoromethane(SURR)					0.331			
Toluene-d8(SURR)					1.071			
4-Bromofluorobenzene(SURR)					0.921			
1,2-Dichloroethane-d4(SURR)					0.075			

040213 1554

FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF10 =10PPB.D RRF20 =20PPB.D
RRF50 =50PPB.D RRF60 =60PPBR1.D RRF80 =80PPB.D

COMPOUND		RRF10	RRF20	RRF50	RRF60	RRF80	$\overline{RRF}$	%RSD OR R^2		RSD
Dichlorodifluoromethane		0.325	0.334	0.345	0.293	0.359	0.32746	7.6		
Chloromethane	#	0.328	0.332	0.351	0.309	0.364	0.34889	7.9	#	
Vinyl chloride	*	0.330	0.330	0.347	0.316	0.379	0.33354	10	*	
Bromomethane		0.154	0.157	0.178	0.176	0.199	0.17252	8.3		
Chloroethane		0.209	0.226	0.221	0.194	0.230	0.2183	7.3		
Trichlorofluoromethane		0.353	0.359	0.372	0.337	0.408	0.3574	8.5		
1,1-Dichloroethene	*	0.379	0.364	0.372	0.336	0.389	0.37776	9.1	*	
Acrolein		0.054	0.056	0.056	0.051	0.056	0.05529	3.9		
Methyl iodide		0.382	0.341	0.317	0.291	0.351	0.30224	0.99325		
Carbon disulfide		0.766	0.712	0.740	0.687	0.803	0.73672	6.4		
Methylene chloride		0.385	0.345	0.339	0.314	0.347	0.37685	0.99631		
trans-1,2-Dichloroethene		0.380	0.357	0.362	0.335	0.380	0.3684	7.1		
Acrylonitrile		0.131	0.127	0.128	0.114	0.132	0.13007	8.4		
1,1-Dichloroethane	#	0.529	0.462	0.464	0.433	0.483	0.4654	6.9	#	
Acetone		0.179	0.143	0.147	0.154	0.130	0.18024	0.9912		
2-Butanone		0.170	0.155	0.168	0.133	0.162	0.15386	9.3		
Chloroform	*	0.539	0.493	0.490	0.456	0.511	0.49306	6.6	*	
1,1,1-Trichloroethane		0.370	0.352	0.370	0.347	0.395	0.34983	8.2		
Carbon tetrachloride		0.321	0.306	0.324	0.303	0.345	0.30261	9.4		
Benzene		1.132	1.077	1.101	1.032	1.154	1.06725	6		
1,2-Dichloroethane		0.382	0.344	0.358	0.326	0.362	0.35876	5		
Trichloroethene		0.335	0.294	0.303	0.286	0.318	0.29909	7.1		
Vinyl acetate		0.701	0.688	0.729	0.702	0.777	0.68416	8.6		
1,2-Dichloropropane	*	0.307	0.292	0.292	0.275	0.307	0.28834	5.2	*	
Dibromomethane		0.225	0.206	0.204	0.189	0.212	0.20715	5.3		
Bromodichloromethane		0.385	0.358	0.367	0.343	0.381	0.35775	5		
cis-1,3-Dichloropropene		0.360	0.353	0.396	0.383	0.414	0.33992	0.99779		
4-Methyl-2-pentanone		0.111	0.109	0.121	0.109	0.130	0.10767	0.99586		
Toluene	*	0.703	0.688	0.707	0.667	0.742	0.64719	11.5	*	
trans-1,3-Dichloropropene		0.328	0.336	0.378	0.369	0.359	0.3135	0.99882		
Ethyl methacrylate		0.314	0.322	0.361	0.342	0.391	0.31964	0.99863		
1,1,2-Trichloroethane		0.307	0.284	0.284	0.260	0.291	0.28428	4.6		
Tetrachloroethene		0.300	0.279	0.283	0.277	0.303	0.28483	5.3		
2-Hexanone		0.273	0.257	0.283	0.239	0.281	0.25671	9.9		

040213 1554

FORM VI

6

VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: VMS01 Calibration Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Calibration Time Begin: 719 End: 1251

Min RRF for SPCC(#) = 0.1 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF10 =10PPB.D RRF20 =20PPB.D
RRF50 =50PPB.D RRF60 =60PPBR1.D RRF80 =80PPB.D

COMPOUND		RRF10	RRF20	RRF50	RRF60	RRF80	$\overline{RRF}$	%RSD OR R^2		RSD
Dibromochloromethane		0.383	0.375	0.381	0.367	0.405	0.35602	9.5		
1,2-Dibromoethane		0.400	0.377	0.377	0.351	0.395	0.37518	5		
Chlorobenzene	#	1.080	1.017	1.017	0.977	1.068	1.03366	5.1	#	
1,1,1,2-Tetrachloroethane		0.333	0.332	0.343	0.328	0.361	0.33172	4.5		
Ethylbenzene	*	0.514	0.509	0.525	0.507	0.554	0.50137	7.2	*	
Styrene		1.033	1.020	1.082	1.043	1.156	0.97507	14.3		
Bromoform	#	0.246	0.245	0.271	0.252	0.287	0.24593	10	#	
1,1,2,2-Tetrachloroethane	#	1.053	0.984	1.015	0.932	1.035	1.00828	8	#	
1,2,3-Trichloropropane		0.299	0.284	0.284	0.255	0.279	0.28108	4.6		
1,2-Dibromo-3-chloropropane		0.137	0.148	0.157	0.147	0.165	0.14573	8.2		
1,4-Dichloro-2-butene		0.125	0.129	0.136	0.124	0.141	0.12138	11.7		
Acetonitrile		0.075	0.071	0.073	0.066	0.075	0.07112	5.7		
Allyl chloride		0.753	0.709	0.732	0.657	0.753	0.71122	5.7		
1,4-Dioxane		0.003	0.003	0.004	0.003	0.004	0.0029	0.99841		
Isobutyl alcohol		0.003	0.003	0.003	0.003	0.003	0.0032	9.2		
Methacrylonitrile		0.143	0.141	0.147	0.130	0.150	0.13628	7.6		
Methyl methacrylate		0.190	0.188	0.209	0.194	0.222	0.18889	10.5		
Propionitrile		0.048	0.046	0.048	0.042	0.050	0.0451	8.1		
Chloroprene		0.337	0.310	0.332	0.317	0.364	0.31622	9		
o-Xylene		1.283	1.224	1.314	1.279	1.412	1.20664	10.9		
p,m-Xylene		0.653	0.635	0.662	0.636	0.704	0.59584	13.2		
==========										=========
Dibromofluoromethane(SURR)		0.278	0.295	0.302	0.278		0.297	7.4		
Toluene-d8(SURR)		0.920	1.040	1.077	1.002		1.02212	6.3		
4-Bromofluorobenzene(SURR)		0.817	0.933	0.893	0.853		0.88331	5.4		
1,2-Dichloroethane-d4(SURR)		0.069	0.071	0.073	0.068		0.0712	4.4		

040213 1554

FORM VI

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1336

CCV ID: SSC1147407 Lab File ID: SEC13.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Dichlorodifluoromethane		0.32746	0.2973	9.2	AVRG	
Chloromethane	#	0.34889	0.31837	8.7	AVRG	#
Vinyl chloride	*	0.33354	0.3225	3.3	AVRG	*
Bromomethane		0.17252	0.18443	6.9	AVRG	
Chloroethane		0.2183	0.19593	10.2	AVRG	
Trichlorofluoromethane		0.3574	0.34351	3.9	AVRG	
1,1-Dichloroethene	*	0.37776	0.3415	9.6	AVRG	*
Acrolein		0.05529	0.04885	11.6	AVRG	
Methyl iodide		50	46.9	6.2	2ORD	
Carbon disulfide		0.73672	0.69837	5.2	AVRG	
Methylene chloride		50	47.4	5.2	LINR	
trans-1,2-Dichloroethene		0.3684	0.3404	7.6	AVRG	
Acrylonitrile		0.13007	0.11892	8.6	AVRG	
1,1-Dichloroethane	#	0.4654	0.43713	6.1	AVRG	#
Acetone		100	91	9.0	2ORD	
2-Butanone		0.15386	0.12458	19.0	AVRG	
Chloroform	*	0.49306	0.45591	7.5	AVRG	*
1,1,1-Trichloroethane		0.34983	0.3511	0.4	AVRG	
Carbon tetrachloride		0.30261	0.30695	1.4	AVRG	
Benzene		1.06725	1.035	3.0	AVRG	
1,2-Dichloroethane		0.35876	0.33108	7.7	AVRG	
Trichloroethene		0.29909	0.28575	4.5	AVRG	
Vinyl acetate		0.68416	0.70004	2.3	AVRG	
1,2-Dichloropropane	*	0.28834	0.27715	3.9	AVRG	*
Dibromomethane		0.20715	0.19151	7.6	AVRG	
Bromodichloromethane		0.35775	0.34477	3.6	AVRG	
cis-1,3-Dichloropropene		50	47.2	5.6	LINR	
4-Methyl-2-pentanone		100	104	4.0	2ORD	
Toluene	*	0.64719	0.66705	3.1	AVRG	*
trans-1,3-Dichloropropene		50	49.9	0.2	LINR	
Ethyl methacrylate		50	49.4	1.2	2ORD	
1,1,2-Trichloroethane		0.28428	0.26301	7.5	AVRG	
Tetrachloroethene		0.28483	0.26677	6.3	AVRG	
2-Hexanone		0.25671	0.23461	8.6	AVRG	
Dibromochloromethane		0.35602	0.35639	0.1	AVRG	
1,2-Dibromoethane		0.37518	0.35218	6.1	AVRG	

040213 1554

FORM VII

7SSC

VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1336

CCV ID: SSC1147407 Lab File ID: SEC13.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Chlorobenzene	#	1.03366	0.95768	7.4	AVRG	#
1,1,1,2-Tetrachloroethane		0.33172	0.32087	3.3	AVRG	
Ethylbenzene	*	0.50137	0.48993	2.3	AVRG	*
Styrene		0.97507	1.013	3.9	AVRG	
Bromoform	#	0.24593	0.24523	0.3	AVRG	#
1,1,2,2-Tetrachloroethane	#	1.00828	0.92449	8.3	AVRG	#
1,2,3-Trichloropropane		0.28108	0.25707	8.5	AVRG	
1,2-Dibromo-3-chloropropane		0.14573	0.14432	1.0	AVRG	
1,4-Dichloro-2-butene		0.12138	0.10513	13.4	AVRG	
Acetonitrile		0.07112	0.0666	6.4	AVRG	
Allyl chloride		0.71122	0.66603	6.4	AVRG	
1,4-Dioxane		1000	966	3.4	2ORD	
Isobutyl alcohol		0.0032	0.00287	10.3	AVRG	
Methacrylonitrile		0.13628	0.13179	3.3	AVRG	
Methyl methacrylate		0.18889	0.1899	0.5	AVRG	
Propionitrile		0.0451	0.04319	4.2	AVRG	
Chloroprene		0.31622	0.31988	1.2	AVRG	
o-Xylene		1.20664	1.231	2.0	AVRG	
p,m-Xylene		0.59584	0.61322	2.9	AVRG	
==========						
Dibromofluoromethane(SURR)		0.297	0.30369	2.3	AVRG	
Toluene-d8(SURR)		1.02212	1.083	6.0	AVRG	
4-Bromofluorobenzene(SURR)		0.88331	0.9018	2.1	AVRG	
1,2-Dichloroethane-d4(SURR)		0.0712	0.07266	2.1	AVRG	

040213 1554

FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1547

CCV ID: CCV1147377 Lab File ID: 50CCV12.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Dichlorodifluoromethane		0.32746	0.28749	12.2	AVRG	
Chloromethane	#	0.34889	0.31963	8.4	AVRG	#
Vinyl chloride	*	0.33354	0.32679	2.0	AVRG	*
Bromomethane		0.17252	0.19554	13.3	AVRG	
Chloroethane		0.2183	0.20249	7.2	AVRG	
Trichlorofluoromethane		0.3574	0.34949	2.2	AVRG	
1,1-Dichloroethene	*	0.37776	0.36186	4.2	AVRG	*
Acrolein		0.05529	0.05666	2.5	AVRG	
Methyl iodide		50	53	6.0	2ORD	
Carbon disulfide		0.73672	0.7333	0.5	AVRG	
Methylene chloride		50	51	2.0	LINR	
trans-1,2-Dichloroethene		0.3684	0.36687	0.4	AVRG	
Acrylonitrile		0.13007	0.1313	0.9	AVRG	
1,1-Dichloroethane	#	0.4654	0.47332	1.7	AVRG	#
Acetone		100	94.9	5.1	2ORD	
2-Butanone		0.15386	0.16661	8.3	AVRG	
Chloroform	*	0.49306	0.50302	2.0	AVRG	*
1,1,1-Trichloroethane		0.34983	0.37824	8.1	AVRG	
Carbon tetrachloride		0.30261	0.32513	7.4	AVRG	
Benzene		1.06725	1.133	6.2	AVRG	
1,2-Dichloroethane		0.35876	0.36145	0.7	AVRG	
Trichloroethene		0.29909	0.31131	4.1	AVRG	
Vinyl acetate		0.68416	0.76562	11.9	AVRG	
1,2-Dichloropropane	*	0.28834	0.30637	6.3	AVRG	*
Dibromomethane		0.20715	0.21096	1.8	AVRG	
Bromodichloromethane		0.35775	0.38048	6.4	AVRG	
cis-1,3-Dichloropropene		50	51.7	3.4	LINR	
4-Methyl-2-pentanone		100	115	15.0	2ORD	
Toluene	*	0.64719	0.73516	13.6	AVRG	*
trans-1,3-Dichloropropene		50	58.1	16.2	LINR	
Ethyl methacrylate		50	56.2	12.4	2ORD	
1,1,2-Trichloroethane		0.28428	0.29804	4.8	AVRG	
Tetrachloroethene		0.28483	0.29445	3.4	AVRG	
2-Hexanone		0.25671	0.29241	13.9	AVRG	
Dibromochloromethane		0.35602	0.41319	16.1	AVRG	
1,2-Dibromoethane		0.37518	0.4119	9.8	AVRG	

040213 1554

FORM VII

7

VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: VMS01 CalibrationDate: 01/25/13 Time: 1547

CCV ID: CCV1147377 Lab File ID: 50CCV12.D Init. Calib. Date Begin: 01/25/13 End: 01/25/13

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) NO

Min RRF for SPCC(#) = 0.1 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
Chlorobenzene	#	1.03366	1.075	4.0	AVRG	#
1,1,1,2-Tetrachloroethane		0.33172	0.36725	10.7	AVRG	
Ethylbenzene	*	0.50137	0.54794	9.3	AVRG	*
Styrene		0.97507	1.154	18.4	AVRG	
Bromoform	#	0.24593	0.29011	18.0	AVRG	#
1,1,2,2-Tetrachloroethane	#	1.00828	1.067	5.8	AVRG	#
1,2,3-Trichloropropane		0.28108	0.2993	6.5	AVRG	
1,2-Dibromo-3-chloropropane		0.14573	0.16801	15.3	AVRG	
1,4-Dichloro-2-butene		0.12138	0.12038	0.8	AVRG	
Acetonitrile		0.07112	0.07481	5.2	AVRG	
Allyl chloride		0.71122	0.74807	5.2	AVRG	
1,4-Dioxane		1000	1080	8.0	2ORD	
Isobutyl alcohol		0.0032	0.00316	1.2	AVRG	
Methacrylonitrile		0.13628	0.15299	12.3	AVRG	
Methyl methacrylate		0.18889	0.21786	15.3	AVRG	
Propionitrile		0.0451	0.05172	14.7	AVRG	
Chloroprene		0.31622	0.33842	7.0	AVRG	
o-Xylene		1.20664	1.403	16.3	AVRG	
p,m-Xylene		0.59584	0.69543	16.7	AVRG	
==========						
Dibromofluoromethane(SURR)		0.297	0.29422	0.9	AVRG	
Toluene-d8(SURR)		1.02212	1.059	3.6	AVRG	
4-Bromofluorobenzene(SURR)		0.88331	0.89592	1.4	AVRG	
1,2-Dichloroethane-d4(SURR)		0.0712	0.07277	2.2	AVRG	

040213 1554

FORM VII

8270 SIM Semi-Volatile Organics

040213 1554

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8270D-SIM.

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8270 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

A client requested MS/SD set was analyzed. All percent recovery and relative percent difference (RPD) criteria were met.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

Analytes were detected in Equipment Blank Q3-TFS-EB-01. The following analyte was detected below RL: Naphthalene at 0.024 ug/L.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: DATE: 01/25/2013

SEMI-VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Method: 8270 SIM

EPA Sample No	Lab Sample ID
Q3-TFS-EB-01	350801202
Q3-TFS-MW-17	350801203

040213 1554

8270 SIM Sample Data

040213 1554

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 012-02.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 2049

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.024	J	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 012-03.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 2113

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.021	J	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	1.3		0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.038	J	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

8270 SIM QC Summary

040213 1554

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159125MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159125MB Lab File ID: 12065MB.D

Sample wt/vol: 1000 Units: ML Date Received: 01/22/13

Concentrated Extract Volume: 1 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 2001

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270 SIM

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
90-12-0	1-Methylnaphthalene	0.04	U	0.02	0.04	0.05
91-57-6	2-Methylnaphthalene	0.04	U	0.02	0.04	0.05
83-32-9	Acenaphthene	0.04	U	0.02	0.04	0.05
208-96-8	Acenaphthylene	0.04	U	0.02	0.04	0.05
120-12-7	Anthracene	0.04	U	0.02	0.04	0.05
56-55-3	Benzo(a)anthracene	0.04	U	0.02	0.04	0.05
50-32-8	Benzo(a)pyrene	0.04	U	0.02	0.04	0.05
205-99-2	Benzo(b)fluoranthene	0.04	U	0.02	0.04	0.05
191-24-2	Benzo(g,h,i)perylene	0.04	U	0.02	0.04	0.05
207-08-9	Benzo(k)fluoranthene	0.04	U	0.02	0.04	0.05
218-01-9	Chrysene	0.04	U	0.02	0.04	0.05
53-70-3	Dibenzo(a,h)anthracene	0.04	U	0.02	0.04	0.04
206-44-0	Fluoranthene	0.04	U	0.02	0.04	0.05
86-73-7	Fluorene	0.04	U	0.02	0.04	0.05
193-39-5	Indeno(1,2,3-cd)pyrene	0.04	U	0.02	0.04	0.05
91-20-3	Naphthalene	0.04	U	0.02	0.04	0.05
85-01-8	Phenanthrene	0.04	U	0.02	0.04	0.05
129-00-0	Pyrene	0.04	U	0.02	0.04	0.05

4

SEMI-VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

159125MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID: 12065MB.D Lab Sample ID: 159125MB

Instrument ID: SMSD01 Date Extracted: 01/22/13

Matrix: WATER Date Analyzed: 01/22/13

Level:(low/med) LOW Time Analyzed: 2001

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	Q3-TFS-EB-01	350801202	012-02.D	01/22/13	2049
2	Q3-TFS-MW-17	350801203	012-03.D	01/22/13	2113
3	Q3-TFS-MW-17-MS	350801204	012-04.D	01/22/13	2137
4	Q3-TFS-MW-17-MSD	350801205	012-05.D	01/22/13	2201
5	159126LCS	159126LCS	12065LCSR2.D	01/23/13	1003

COMMENTS:

Page 1 of 1

040213 1554

Form IV

2A

WATER SEMI-VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508012

Column(1): HPMS-5 ID: 0.25 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
159125MB	116.0	108.0					0
159126LCS	94.0	86.0					0
Q3-TFS-EB-01	91.5	83.6					0
Q3-TFS-MW-17	89.6	83.6					0
Q3-TFS-MW-17-MS	102.0	87.6					0
Q3-TFS-MW-17-MSD	95.5	85.6					0

Control Limits

S1	=	p-Terphenyl-d14	33 - 141
S2	=	2-Fluorobiphenyl	43 - 116

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

040213 1554

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: DFTPP1.D DFTPP Injection Date: 01/22/13

Instrument ID: SMSD01 DFTPP Injection Time: 0819

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	31.4	
68	Less than 2.0% of mass 69	0	(0)1
69	Mass 69 relative abundance	41.3	
70	Less than 2.0% of mass 69	0.2	(0.53)1
127	10.0 - 80.0% of mass 198	45	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.8	
275	10.0 - 60.0% of mass 198	30.5	
365	Greater than 1.0% of mass 198	3.7	
441	0.0 - 24.0% of mass 442	14.1	(15.2)2
442	Greater than 50.0% of mass 198	92.5	
443	15.0 - 24.0% of mass 442	18.5	(20.02)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1146735	48042	SIMCAL10.D	01/22/13	1058
2	STD1146743	48043	SIMCAL9.D	01/22/13	1122
3	STD1146742	48044	SIMCAL8.D	01/22/13	1147
4	STD1146741	48045	SIMCAL7.D	01/22/13	1211
5	STD1146740	48974	SIMCAL6.D	01/22/13	1235
6	STD1146739	48047	SIMCAL5.D	01/22/13	1259
7	STD1146738	48048	SIMCAL4.D	01/22/13	1323
8	STD1146737	48049	SIMCAL3.D	01/22/13	1347
9	STD1146736	48050	SIMCAL2.D	01/22/13	1411
10	STD1146732	48051	SIMCAL1.D	01/22/13	1435
11	SSC1146747	48052	SIMSEC.D	01/22/13	1459

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: DFTPP1.D DFTPP Injection Date: 01/22/13

Instrument ID: SMSD01 DFTPP Injection Time: 1651

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	42.7	
68	Less than 2.0% of mass 69	0.3	(0.59)1
69	Mass 69 relative abundance	44.8	
70	Less than 2.0% of mass 69	0.2	(0.49)1
127	10.0 - 80.0% of mass 198	44.2	
197	Less than 2.0% of mass 198	0.2	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.9	
275	10.0 - 60.0% of mass 198	31.2	
365	Greater than 1.0% of mass 198	4.6	
441	0.0 - 24.0% of mass 442	13.2	(14.96)2
442	Greater than 50.0% of mass 198	88.4	
443	15.0 - 24.0% of mass 442	17.9	(20.21)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1146746	49228	SIMCCV3.D	01/22/13	1849
2	159125MB	159125MB	12065MB.D	01/22/13	2001
3	Q3-TFS-EB-01	350801202	012-02.D	01/22/13	2049
4	Q3-TFS-MW-17	350801203	012-03.D	01/22/13	2113
5	Q3-TFS-MW-17-MS	350801204	012-04.D	01/22/13	2137
6	Q3-TFS-MW-17-MSD	350801205	012-05.D	01/22/13	2201

5

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: DFTPP3.D DFTPP Injection Date: 01/23/13

Instrument ID: SMSD01 DFTPP Injection Time: 0817

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	38	
68	Less than 2.0% of mass 69	0.7	(1.59)1
69	Mass 69 relative abundance	45	
70	Less than 2.0% of mass 69	0.2	(0.37)1
127	10.0 - 80.0% of mass 198	45.9	
197	Less than 2.0% of mass 198	0.1	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.9	
275	10.0 - 60.0% of mass 198	32.1	
365	Greater than 1.0% of mass 198	4.6	
441	0.0 - 24.0% of mass 442	13.5	(14.98)2
442	Greater than 50.0% of mass 198	89.9	
443	15.0 - 24.0% of mass 442	17.4	(19.41)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1146752	48974	SIMCCV1.D	01/23/13	0838
2	159126LCS	159126LCS	12065LCSR2	01/23/13	1003

040213 1554

FORM V

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID (Standard): SIMCAL6.D Date Analyzed: 1/22/2013

Instrument ID: SMSD01 Time Analyzed: 12:35

GC Column: HPMS-5 ID: 0.25 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	24202		4.15	76652		5.31	51242		7.00
	UPPER LIMIT	48404		4.65	153304		5.81	102484		7.50
	LOWER LIMIT	12101		3.65	38326		4.81	25621		6.50
	EPA SAMPLE NO.									
1	159125MB	15390		4.15	48581		5.31	33137		7.00
2	Q3-TFS-EB-01	14514		4.15	44493		5.31	32030		7.00
3	Q3-TFS-MW-17	15656		4.15	51087		5.31	38224		7.00
4	Q3-TFS-MW-17-MS	17873		4.15	56977		5.31	40948		7.00
5	Q3-TFS-MW-17-MSD	18246		4.15	59196		5.31	42608		7.00
6	159126LCS	28909		4.14	95169		5.30	51746		6.99

IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

040213 1554

FORM VIII

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID (Standard): SIMCAL6.D Date Analyzed: 1/22/2013

Instrument ID: SMSD01 Time Analyzed: 12:35

GC Column: HPMS-5 ID: 0.25 (mm)

		IS4 AREA	#	RT	IS5 AREA	#	RT	IS6 AREA	#	RT
	MID CAL STD	104812		8.45	138462		11.03	135148		12.32
	UPPER LIMIT	209624		8.95	276924		11.53	270296		12.82
	LOWER LIMIT	52406		7.95	69231		10.53	67574		11.82
	EPA SAMPLE NO.									
1	159125MB	71956		8.45	93910		11.03	93477		12.32
2	Q3-TFS-EB-01	68379		8.45	98064		11.03	97039		12.32
3	Q3-TFS-MW-17	88432		8.45	125554		11.03	133792		12.32
4	Q3-TFS-MW-17-MS	89373		8.45	123984		11.03	128803		12.32
5	Q3-TFS-MW-17-MSD	95694		8.45	132094		11.03	135766		12.32
6	159126LCS	109576		8.44	145096		11.03	167865		12.33

IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-d12

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

040213 1554

FORM VIII

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/22/13

Instrument ID: SMSD01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 10.01 S2 : 6.35 S3 : S4 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	0730				
2	012213DFTPP1	47701	DFTPP1.D	01/22/13	0819				
3	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	0912				
4	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1032				
5	STD1146735	48042	SIMCAL10.D	01/22/13	1058	10.01	6.35		
6	STD1146743	48043	SIMCAL9.D	01/22/13	1122	10.01	6.35		
7	STD1146742	48044	SIMCAL8.D	01/22/13	1147	10.01	6.35		
8	STD1146741	48045	SIMCAL7.D	01/22/13	1211	10.01	6.35		
9	STD1146740	48974	SIMCAL6.D	01/22/13	1235	10.01	6.35		
10	STD1146739	48047	SIMCAL5.D	01/22/13	1259	10.01	6.35		
11	STD1146738	48048	SIMCAL4.D	01/22/13	1323	10.01	6.35		
12	STD1146737	48049	SIMCAL3.D	01/22/13	1347	10.01	6.35		
13	STD1146736	48050	SIMCAL2.D	01/22/13	1411	10.01	6.35		
14	STD1146732	48051	SIMCAL1.D	01/22/13	1435	10.01	6.35		
15	SSC1146747	48052	SIMSEC.D	01/22/13	1459	10.01	6.35		
16	DFTPP1	47701	DFTPP1.D	01/22/13	1651				
17	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1711				
18	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1735				
19	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1759				
20	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1825				
21	CCV1146746	49228	SIMCCV3.D	01/22/13	1849	10.01	6.35		
22	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1913				
23	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1937				
24	159125MB	159125MB	12065MB.D	01/22/13	2001	10.01	6.35		
25	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	2025				
26	Q3-TFS-EB-01	350801202	012-02.D	01/22/13	2049	10.01	6.35		

			QC LIMITS
S1	=	p-Terphenyl-d14	(+/- 0.66 MINUTES)
S2	=	2-Fluorobiphenyl	(+/- 0.42 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/22/13

Instrument ID: SMSD01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 10.01 S2 : 6.35 S3 : S4 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
27	Q3-TFS-MW-17	350801203	012-03.D	01/22/13	2113	10.01	6.35		
28	Q3-TFS-MW-17-MS	350801204	012-04.D	01/22/13	2137	10.01	6.35		
29	Q3-TFS-MW-17-MSD	350801205	012-05.D	01/22/13	2201	10.01	6.35		
30	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	2225				
31	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	2248				
32	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	2312				
33	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	2336				
34	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0000				
35	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0024				
36	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0048				
37	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0112				
38	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0136				
39	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0200				
40	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0224				
41	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0248				
42	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0312				
43	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0336				
44	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0400				
45	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0424				
46	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0651				
47	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0731				
48	012313DFTPP3	47701	DFTPP3.D	01/23/13	0817				
49	CCV1146752	48974	SIMCCV1.D	01/23/13	0838	10.01	6.34		
50	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0913				
51	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/23/13	0937				
52	159126LCS	159126LCS	12065LCSR2.D	01/23/13	1003	10.01	6.34		

			QC LIMITS
S1	=	p-Terphenyl-d14	(+/- 0.66 MINUTES)
S2	=	2-Fluorobiphenyl	(+/- 0.42 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159126LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
1-Methylnaphthalene	0.5	0.39	78.0			68 - 115
2-Methylnaphthalene	0.5	0.37	74.0			47 - 121
Acenaphthene	0.5	0.48	96.0			64 - 110
Acenaphthylene	0.5	0.52	104.0			45 - 115
Anthracene	0.5	0.5	100.0			61 - 108
Benzo(a)anthracene	0.5	0.5	100.0			53 - 110
Benzo(a)pyrene	0.5	0.47	94.0			55 - 109
Benzo(b)fluoranthene	0.5	0.43	86.0			65 - 110
Benzo(g,h,i)perylene	0.5	0.48	96.0			68 - 115
Benzo(k)fluoranthene	0.5	0.45	90.0			70 - 111
Chrysene	0.5	0.45	90.0			71 - 115
Dibenzo(a,h)anthracene	0.5	0.51	102.0			60 - 104
Fluoranthene	0.5	0.5	100.0			63 - 114
Fluorene	0.5	0.48	96.0			59 - 120
Indeno(1,2,3-cd)pyrene	0.5	0.51	102.0			66 - 110
Naphthalene	0.5	0.48	96.0			68 - 125
Phenanthrene	0.5	0.48	96.0			31 - 147
Pyrene	0.5	0.48	96.0			59 - 120

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
1-Methylnaphthalene	0.50	0.021	0.51	97.3	36 - 138
2-Methylnaphthalene	0.50	0	0.49	97.5	34 - 141
Acenaphthene	0.50	1.3	1.9	119.0	47 - 128
Acenaphthylene	0.50	0	0.47	93.5	32 - 153
Anthracene	0.50	0	0.47	93.5	53 - 128
Benzo(a)anthracene	0.50	0	0.47	93.5	59 - 166
Benzo(a)pyrene	0.50	0	0.46	91.5	43 - 146
Benzo(b)fluoranthene	0.50	0	0.45	89.6	56 - 173
Benzo(g,h,i)perylene	0.50	0	0.47	93.5	25 - 174
Benzo(k)fluoranthene	0.50	0	0.46	91.5	56 - 158
Chrysene	0.50	0	0.44	87.6	55 - 128
Dibenzo(a,h)anthracene	0.50	0	0.50	99.5	21 - 207
Fluoranthene	0.50	0.038	0.55	102.0	55 - 155
Fluorene	0.50	0	0.48	95.5	40 - 151
Indeno(1,2,3-cd)pyrene	0.50	0	0.48	95.5	19 - 166
Naphthalene	0.50	0	0.47	93.5	38 - 139
Phenanthrene	0.50	0	0.46	91.5	65 - 120
Pyrene	0.50	0	0.44	87.6	49 - 158

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268 Q3-TFS-MW-17-MSD

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1-Methylnaphthalene	0.50	0.51	97.3	0.0	20	36 - 138
2-Methylnaphthalene	0.50	0.46	91.5	6.3	20	34 - 141
Acenaphthene	0.50	1.8	99.5	5.4	20	47 - 128
Acenaphthylene	0.50	0.48	95.5	2.1	20	32 - 153
Anthracene	0.50	0.47	93.5	0.0	20	53 - 128
Benzo(a)anthracene	0.50	0.46	91.5	2.2	20	59 - 166
Benzo(a)pyrene	0.50	0.45	89.6	2.2	20	43 - 146
Benzo(b)fluoranthene	0.50	0.44	87.6	2.2	20	56 - 173
Benzo(g,h,i)perylene	0.50	0.48	95.5	2.1	20	25 - 174
Benzo(k)fluoranthene	0.50	0.46	91.5	0.0	20	56 - 158
Chrysene	0.50	0.44	87.6	0.0	20	55 - 128
Dibenzo(a,h)anthracene	0.50	0.50	99.5	0.0	20	21 - 207
Fluoranthene	0.50	0.51	93.9	7.5	20	55 - 155
Fluorene	0.50	0.48	95.5	0.0	20	40 - 151
Indeno(1,2,3-cd)pyrene	0.50	0.48	95.5	0.0	20	19 - 166
Naphthalene	0.50	0.46	91.5	2.2	20	38 - 139
Phenanthrene	0.50	0.44	87.6	4.4	19	65 - 120
Pyrene	0.50	0.44	87.6	0.0	17	49 - 158

RPD: 0 out of 18 outside limits

Spike Recovery: 0 out of 18 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

8270 SIM Standards Data

040213 1554

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD01 Calibration Date Begin: 01/22/13 End: 01/22/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 1058 End: 1435

Min RRF for SPCC(#) = N/A Max %RSD for CCC(*) = 15 %

LAB FILE ID: RRF0.02 =SIMCAL1.D RRF0.05 =SIMCAL2.D
RRF0.07 =SIMCAL3.D RRF0.1 =SIMCAL4.D RRF0.2 =SIMCAL5.D

COMPOUND	RRF0.02	RRF0.05	RRF0.07	RRF0.1	RRF0.2	$\overline{RRF}$	%RSD OR R^2	RSD
1-Methylnaphthalene	0.682	0.680	0.680	0.752	0.684			
2-Methylnaphthalene	0.745	0.800	0.752	0.831	0.765			
Acenaphthene	* 1.273	1.245	1.207	1.288	1.191		*	
Acenaphthylene	1.746	1.833	1.724	1.847	1.722			
Anthracene	0.901	0.982	0.939	1.070	0.983			
Benzo(a)anthracene	1.075	1.090	1.032	1.149	1.034			
Benzo(a)pyrene	* 1.025	1.084	1.008	1.128	1.022		*	
Benzo(b)fluoranthene	1.129	1.225	1.177	1.319	1.195			
Benzo(g,h,i)perylene	1.121	1.117	1.076	1.188	1.073			
Benzo(k)fluoranthene	1.069	1.200	1.229	1.401	1.246			
Chrysene	1.070	1.089	1.052	1.155	1.084			
Dibenzo(a,h)anthracene	1.031	1.097	1.021	1.136	1.057			
Fluoranthene	* 1.346	1.366	1.232	1.412	1.287		*	
Fluorene	1.395	1.406	1.370	1.478	1.385			
Indeno(1,2,3-cd)pyrene	1.249	1.273	1.261	1.370	1.255			
Naphthalene	1.100	1.132	1.094	1.216	1.094			
Phenanthrene	1.077	1.078	1.033	1.152	1.067			
Pyrene	0.996	1.036	0.994	1.107	0.997			
==========								
p-Terphenyl-d14(SURR)	0.913	0.938	0.876	0.961	0.876			
2-Fluorobiphenyl(SURR)	1.467	1.585	1.559	1.689	1.537			

040213 1554

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD01 Calibration Date Begin: 01/22/13 End: 01/22/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 1058 End: 1435

Min RRF for SPCC(#) = N/A Max %RSD for CCC(*) = 15 %

LAB FILE ID: RRF0.5 =SIMCAL6.D RRF0.7 =SIMCAL7.D
RRF1 =SIMCAL8.D RRF5 =SIMCAL9.D RRF10 =SIMCAL10.D

COMPOUND	RRF0.5	RRF0.7	RRF1	RRF5	RRF10	$\overline{RRF}$	%RSD OR R^2	RSD
1-Methylnaphthalene	0.841	0.699	0.724	0.734	0.742	0.72175	6.9	
2-Methylnaphthalene	0.928	0.759	0.801	0.810	0.824	0.80151	6.7	
Acenaphthene	* 1.396	1.174	1.259	1.253	1.302	1.25871	5.1	*
Acenaphthylene	2.104	1.740	1.886	1.914	1.992	1.85104	6.9	
Anthracene	1.191	0.979	1.080	1.050	1.101	1.02754	8.4	
Benzo(a)anthracene	1.214	1.066	1.113	1.135	1.125	1.1032	5.1	
Benzo(a)pyrene	* 1.211	1.076	1.143	1.178	1.207	1.10824	6.9	*
Benzo(b)fluoranthene	1.403	1.258	1.279	1.296	1.353	1.26345	6.7	
Benzo(g,h,i)perylene	1.269	1.107	1.153	1.159	1.209	1.14727	5.4	
Benzo(k)fluoranthene	1.461	1.260	1.343	1.354	1.335	1.28974	8.7	
Chrysene	1.257	1.076	1.130	1.105	1.093	1.11107	5.3	
Dibenzo(a,h)anthracene	1.275	1.098	1.149	1.154	1.219	1.12385	7.2	
Fluoranthene	* 1.498	1.275	1.353	1.383	1.399	1.35503	5.7	*
Fluorene	1.640	1.378	1.457	1.478	1.539	1.45261	5.9	
Indeno(1,2,3-cd)pyrene	1.494	1.318	1.380	1.427	1.479	1.3506	6.9	
Naphthalene	1.325	1.104	1.148	1.154	1.160	1.15279	6.2	
Phenanthrene	1.243	1.060	1.115	1.124	1.153	1.1102	5.5	
Pyrene	1.176	1.069	1.097	1.117	1.120	1.07082	5.9	
==========								=========
p-Terphenyl-d14(SURR)	1.021	0.869	0.901	0.872	0.881	0.91071	5.4	
2-Fluorobiphenyl(SURR)	1.835	1.512	1.612	1.572	1.595	1.59636	6.4	

040213 1554

FORM VI

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD01 CalibrationDate: 01/22/13 Time: 1459

CCV ID: SSC1146747 Lab File ID: SIMSEC.D Init. Calib. Date Begin: 01/22/13 End: 01/22/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = N/A Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
1-Methylnaphthalene		0.72175	0.7293	1.0	AVRG		
2-Methylnaphthalene		0.80151	0.71024	11.4	AVRG		
Acenaphthene	*	1.25871	1.214	3.6	AVRG	*	
Acenaphthylene		1.85104	1.755	5.2	AVRG		
Anthracene		1.02754	0.95778	6.8	AVRG		
Benzo(a)anthracene		1.1032	1.041	5.6	AVRG		
Benzo(a)pyrene	*	1.10824	1.034	6.7	AVRG	*	
Benzo(b)fluoranthene		1.26345	1.221	3.4	AVRG		
Benzo(g,h,i)perylene		1.14727	1.184	3.2	AVRG		
Benzo(k)fluoranthene		1.28974	1.26	2.3	AVRG		
Chrysene		1.11107	1.073	3.4	AVRG		
Dibenzo(a,h)anthracene		1.12385	1.161	3.3	AVRG		
Fluoranthene	*	1.35503	1.387	2.4	AVRG	*	
Fluorene		1.45261	1.4	3.6	AVRG		
Indeno(1,2,3-cd)pyrene		1.3506	1.402	3.8	AVRG		
Naphthalene		1.15279	1.153	0.0	AVRG		
Phenanthrene		1.1102	1.101	0.8	AVRG		
Pyrene		1.07082	0.94718	11.5	AVRG		
==========							
p-Terphenyl-d14(SURR)		0.91071	0.9078	0.3	AVRG		
2-Fluorobiphenyl(SURR)		1.59636	1.509	5.5	AVRG		

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD01 CalibrationDate: 01/22/13 Time: 1849

CCV ID: CCV1146746 Lab File ID: SIMCCV3.D Init. Calib. Date Begin: 01/22/13 End: 01/22/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = N/A Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
1-Methylnaphthalene		0.72175	0.73572	1.9	AVRG		
2-Methylnaphthalene		0.80151	0.81616	1.8	AVRG		
Acenaphthene	*	1.25871	1.223	2.8	AVRG	*	
Acenaphthylene		1.85104	1.771	4.3	AVRG		
Anthracene		1.02754	0.98937	3.7	AVRG		
Benzo(a)anthracene		1.1032	1.036	6.1	AVRG		
Benzo(a)pyrene	*	1.10824	1.056	4.7	AVRG	*	
Benzo(b)fluoranthene		1.26345	1.199	5.1	AVRG		
Benzo(g,h,i)perylene		1.14727	1.14	0.6	AVRG		
Benzo(k)fluoranthene		1.28974	1.286	0.3	AVRG		
Chrysene		1.11107	1.079	2.9	AVRG		
Dibenzo(a,h)anthracene		1.12385	1.159	3.1	AVRG		
Fluoranthene	*	1.35503	1.279	5.6	AVRG	*	
Fluorene		1.45261	1.425	1.9	AVRG		
Indeno(1,2,3-cd)pyrene		1.3506	1.372	1.6	AVRG		
Naphthalene		1.15279	1.143	0.8	AVRG		
Phenanthrene		1.1102	1.051	5.3	AVRG		
Pyrene		1.07082	0.99291	7.3	AVRG		
==========							
p-Terphenyl-d14(SURR)		0.91071	0.91277	0.2	AVRG		
2-Fluorobiphenyl(SURR)		1.59636	1.602	0.4	AVRG		

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD01 CalibrationDate: 01/23/13 Time: 0838

CCV ID: CCV1146752 Lab File ID: SIMCCV1.D Init. Calib. Date Begin: 01/22/13 End: 01/22/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = N/A Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
1-Methylnaphthalene		0.72175	0.76196	5.6	AVRG		
2-Methylnaphthalene		0.80151	0.84018	4.8	AVRG		
Acenaphthene	*	1.25871	1.302	3.4	AVRG	*	
Acenaphthylene		1.85104	2.05	10.7	AVRG		
Anthracene		1.02754	1.103	7.3	AVRG		
Benzo(a)anthracene		1.1032	1.147	4.0	AVRG		
Benzo(a)pyrene	*	1.10824	1.126	1.6	AVRG	*	
Benzo(b)fluoranthene		1.26345	1.169	7.5	AVRG		
Benzo(g,h,i)perylene		1.14727	1.163	1.4	AVRG		
Benzo(k)fluoranthene		1.28974	1.21	6.2	AVRG		
Chrysene		1.11107	1.09	1.9	AVRG		
Dibenzo(a,h)anthracene		1.12385	1.181	5.1	AVRG		
Fluoranthene	*	1.35503	1.398	3.2	AVRG	*	
Fluorene		1.45261	1.54	6.0	AVRG		
Indeno(1,2,3-cd)pyrene		1.3506	1.408	4.2	AVRG		
Naphthalene		1.15279	1.177	2.1	AVRG		
Phenanthrene		1.1102	1.15	3.6	AVRG		
Pyrene		1.07082	1.107	3.4	AVRG		
==========							
p-Terphenyl-d14(SURR)		0.91071	0.87322	4.1	AVRG		
2-Fluorobiphenyl(SURR)		1.59636	1.616	1.2	AVRG		

040213 1554

FORM VII

8270 Semi-Volatile Organics

040213 1554

CASE NARRATIVE
Semi-Volatile Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method SW8270D.

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for 8270 semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met with the exception of:

The Maximum %RSD of 15% was exceeded for 4-Nitroquinoline-1-oxide for the initial calibration with a value of 20% RSD. No further action was taken, since this compound was not detected in any samples.

SSC1146542 was the second source verification standard analyzed with the initial calibration on 01/16/13. The %D was over the 20% limit for the following compounds: Methapyriline (-27.4%), Aramite (-21.9%), 1,3,5-Trinitrobenzene (-42.2%). No further action was taken, since these compounds were not detected in any samples and were a result of a discrepancy between the primary and secondary standards.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met.

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been a historically poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy)methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). None of the above compounds were detected in any samples. No further action was taken

Samples coded accordingly.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed. All percent recovery and relative percent difference (RPD) criteria were met with the exception of:

MS - Q3-TFS-MW-17-MS was analyzed with the water samples extracted on 01/21/13. The following analytes were recovered below criteria: 1,4-Naphthoquinone at 0 % with criteria of (28-143), 1-Naphthylamine at 33.1 % with criteria of (38-91), 2-Naphthylamine at 25.1 % with criteria of (70-130), 4-Aminobiphenyl at 27.4 % with criteria of (49-103), 4-Nitroquinoline-1-oxide at 0 % with criteria of (10-125), a,a-Dimethylphenethylamine at 17.4 % with criteria of (70-130), Hexachloropropene at 0 % with criteria of (21-105), Isodrin at 23.1 % with criteria of (54-110), p-Dimethylaminoazobenzene at 66.2 % with criteria of (70-130) and the following analytes were recovered above criteria: 3-Methylcholanthrene at 120 % with criteria of (52-105), 7,12-Dimethylbenz(a)anthracene at 95.5 % with criteria of (57-95), Bis(2-chloroethoxy)methane at 125 % with criteria of (45-105), Pentachlorophenol at 130 % with criteria of (40-115), Safrole at 103 % with criteria of (52-100).

SD - Q3-TFS-MW-17-MSD was analyzed with the water samples extracted on 01/21/13. The following analytes were recovered below criteria: 1,4-Naphthoquinone at 0 % with criteria of (28-143), 1-Naphthylamine at 33.6 % with criteria of (38-91), 2-Naphthylamine at 27.9 % with criteria of (70-130), 4-Aminobiphenyl at 30.1 % with criteria of (49-103), 4-Nitroquinoline-1-oxide

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

at 0 % with criteria of (10-125), a,a-Dimethylphenethylamine at 11.2 % with criteria of (70-130), Hexachloropropene at 0 % with criteria of (21-105), Isodrin at 21.4 % with criteria of (54-110), p-Dimethylaminoazobenzene at 67.7 % with criteria of (70-130) and the following analytes were recovered above criteria: 3-Methylcholanthrene at 121 % with criteria of (52-105), 7,12-Dimethylbenz(a)anthracene at 96.8 % with criteria of (57-95), Bis(2-chloroethoxy)methane at 128 % with criteria of (45-105), Pentachlorophenol at 127 % with criteria of (40-115), Safrole at 109 % with criteria of (52-100). The following analyte exceeded RPD criteria: a,a-Dimethylphenethylamine at 43.5 % with criteria of (20).

Samples coded accordingly.

E. Internal Standards:

All acceptance criteria were met.

F. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: DATE: 01/31/2013

SEMI-VOLATILE ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Method: 8270

EPA Sample No	Lab Sample ID
Q3-TFS-EB-01	350801202
Q3-TFS-MW-17	350801203

040213 1554

8270 Sample Data

040213 1554

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 01202.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1608

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.3	U	6.1	12.3	12.3
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20.1
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20.1
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32.2	U	16.1	32.2	32.2
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 01203.d

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1628

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32.2	U	16.1	32.2	32.2
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

8270 QC Summary

040213 1554

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
110-86-1	Pyridine	4.2	U	2.1	4.2	4.2
62-75-9	N-Nitrosodimethylamine	4.4	U	2.2	4.4	4.4
62-53-3	Aniline	5.6	U	2.8	5.6	5.6
111-44-4	Bis(2-chloroethyl)ether	6	U	3	6	6
108-95-2	Phenol	3.4	U	1.7	3.4	4
95-57-8	2-Chlorophenol	5.8	U	2.9	5.8	5.8
541-73-1	1,3-Dichlorobenzene	5.4	U	2.7	5.4	5.4
106-46-7	1,4-Dichlorobenzene	5.4	U	2.7	5.4	5.4
95-50-1	1,2-Dichlorobenzene	5.2	U	2.6	5.2	5.2
100-51-6	Benzyl alcohol	6.2	U	3.1	6.2	10
108-60-1	2,2'-Oxybis(1-chloropropane)	6.6	U	3.3	6.6	6.6
95-48-7	2-Methylphenol	5.2	U	2.6	5.2	5.2
67-72-1	Hexachloroethane	5.2	U	2.6	5.2	5.2
621-64-7	N-Nitroso-di-n-propylamine	6	U	3	6	6
106-44-5	4-Methylphenol	12.2	U	6.1	12.2	12.2
98-95-3	Nitrobenzene	2	U	1	2	4
78-59-1	Isophorone	7.6	U	3.8	7.6	7.6
88-75-5	2-Nitrophenol	1.5	U	0.77	1.5	4
105-67-9	2,4-Dimethylphenol	4.6	U	2.3	4.6	4.6
111-91-1	Bis(2-chloroethoxy)methane	7	U	3.5	7	7
120-83-2	2,4-Dichlorophenol	6.2	U	3.1	6.2	6.2
120-82-1	1,2,4-Trichlorobenzene	5.2	U	2.6	5.2	5.2
106-47-8	4-Chloroaniline	6	U	3	6	6
87-68-3	Hexachlorobutadiene	5	U	2.5	5	5
59-50-7	4-Chloro-3-methylphenol	5.4	U	2.7	5.4	5.4
77-47-4	Hexachlorocyclopentadiene	1.6	U	0.82	1.6	4
88-06-2	2,4,6-Trichlorophenol	1.7	U	0.84	1.7	4

040213 1554

Form I

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
95-95-4	2,4,5-Trichlorophenol	6.8	U	3.4	6.8	6.8
91-58-7	2-Chloronaphthalene	5.6	U	2.8	5.6	5.6
88-74-4	2-Nitroaniline	6	U	3	6	6
131-11-3	Dimethylphthalate	6	U	3	6	6
606-20-2	2,6-Dinitrotoluene	5.6	U	2.8	5.6	5.6
99-09-2	3-Nitroaniline	5.6	U	2.8	5.6	5.6
51-28-5	2,4-Dinitrophenol	11.2	U	5.6	11.2	20
132-64-9	Dibenzofuran	5.4	U	2.7	5.4	5.4
121-14-2	2,4-Dinitrotoluene	5.6	U	2.8	5.6	5.6
100-02-7	4-Nitrophenol	8	U	4	8	8
7005-72-3	4-Chlorophenyl-phenylether	5	U	2.5	5	5
84-66-2	Diethylphthalate	5.6	U	2.8	5.6	5.6
100-01-6	4-Nitroaniline	3	U	1.5	3	4
534-52-1	4,6-Dinitro-2-methylphenol	8	U	4	8	8
86-30-6	N-Nitrosodiphenylamine	6.8	U	3.4	6.8	6.8
101-55-3	4-Bromophenyl-phenylether	4.6	U	2.3	4.6	4.6
118-74-1	Hexachlorobenzene	0.82	U	0.41	0.82	4
87-86-5	Pentachlorophenol	2.8	U	1.4	2.8	10
84-74-2	Di-n-butylphthalate	1.7	U	0.86	1.7	4
85-68-7	Butylbenzylphthalate	6	U	3	6	6
91-94-1	3,3'-Dichlorobenzidine	5.4	U	2.7	5.4	5.4
117-81-7	Bis(2-ethylhexyl)phthalate	8.8	U	4.4	8.8	8.8
117-84-0	Di-n-octylphthalate	4	U	2	4	4
109-06-8	2-Picoline	8	U	4	8	8
10595-95-6	N-Nitrosomethylethylamine	5.4	U	2.7	5.4	5.4
55-18-5	N-Nitrosodiethylamine	6.2	U	3.1	6.2	6.2
66-27-3	Methylmethanesulfonate	3.8	U	1.9	3.8	4

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
62-50-0	Ethyl methanesulfonate	5	U	2.5	5	5
76-01-7	Pentachloroethane	5	U	2.5	5	20
930-55-2	N-Nitrosopyrrolidine	5.4	U	2.7	5.4	5.4
98-86-2	Acetophenone	8	U	4	8	8
59-89-2	N-Nitrosomorpholine	6	U	3	6	6
95-53-4	o-Toluidine	5.4	U	2.7	5.4	5.4
122-09-8	a,a-Dimethylphenethylamine	32	U	16	32	32
87-65-0	2,6-Dichlorophenol	7	U	3.5	7	7
1888-71-7	Hexachloropropene	4	U	2	4	4
924-16-3	N-Nitrosodibutylamine	5.4	U	2.7	5.4	5.4
120-58-1	Isosafrole	5.2	U	2.6	5.2	5.2
95-94-3	1,2,4,5-Tetrachlorobenzene	4.4	U	2.2	4.4	4.4
94-59-7	Safrole	5	U	2.5	5	5
130-15-4	1,4-Naphthoquinone	6.2	U	3.1	6.2	6.2
99-65-0	1,3-Dinitrobenzene	5	U	2.5	5	5
608-93-5	Pentachlorobenzene	4.4	U	2.2	4.4	4.4
134-32-7	1-Naphthylamine	3.6	U	1.8	3.6	4
91-59-8	2-Naphthylamine	5	U	2.5	5	5
58-90-2	2,3,4,6-Tetrachlorophenol	6	U	3	6	6
99-55-8	5-Nitro-o-toluidine	5.2	U	2.6	5.2	5.2
106-50-3	p-Phenylenediamine	4	U	2	4	4
62-44-2	Phenacetin	1.8	U	0.89	1.8	4
92-67-1	4-Aminobiphenyl	4	U	2	4	4
23950-58-5	Pronamide	1.6	U	0.81	1.6	4
82-68-8	Pentachloronitrobenzene(PCNB)	4	U	2	4	4
88-85-7	Dinoseb	8	U	4	8	8
56-57-5	4-Nitroquinoline-1-oxide	7.4	U	3.7	7.4	10

1

SEMI-VOLATILE ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159080MB Lab File ID: 12056MB.d

Sample wt/vol: 1000 Units: ML Date Received: 01/21/13

Concentrated Extract Volume: 1 Date Extracted: 01/21/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1228

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: 8270

GPC Cleanup : (Y/N) N pH:

Column(1): HPMS-5 ID: 0.25 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
91-80-5	Methapyriline	4.4	U	2.2	4.4	4.4
140-57-8	Aramite	8	U	4	8	8
60-11-7	p-Dimethylaminoazobenzene	1.2	U	0.62	1.2	4
53-96-3	2-Acetylaminofluorene	2.2	U	1.1	2.2	4
57-97-6	7,12-Dimethylbenz(a)anthracene	1.9	U	0.96	1.9	4
56-49-5	3-Methylcholanthrene	4.4	U	2.2	4.4	4.4
100-75-4	N-Nitrosopiperidine	5.6	U	2.8	5.6	5.6
99-35-4	1,3,5-Trinitrobenzene	4	U	2	4	4
2303-16-4	Diallate (Avadex)	1.7	U	0.84	1.7	4
465-73-6	Isodrin	5.2	U	2.6	5.2	5.2
510-15-6	Chlorobenzilate	1.6	U	0.78	1.6	4
143-50-0	Kepone	32	U	16	32	32
126-68-1	0,0,0-Triethylphosphorothioate	5.8	U	2.9	5.8	5.8

SEMI-VOLATILE ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

159080MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID: 12056MB.d Lab Sample ID: 159080MB

Instrument ID: SMSD04 Date Extracted: 01/21/13

Matrix: WATER Date Analyzed: 01/22/13

Level:(low/med) LOW Time Analyzed: 1228

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	159081LCS	159081LCS	12056LCS.d	01/22/13	1248
2	Q3-TFS-EB-01	350801202	01202.d	01/22/13	1608
3	Q3-TFS-MW-17	350801203	01203.d	01/22/13	1628
4	Q3-TFS-MW-17-MS	350801204	01204.d	01/22/13	1648
5	Q3-TFS-MW-17-MSD	350801205	01205.d	01/22/13	1708

COMMENTS:

Page 1 of 1

040213 1554

Form IV

2A

WATER SEMI-VOLATILE ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508012

Column(1): HPMS-5 ID: 0.25 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
159080MB	46.7	29.8	73.8	71.4	85.2	76.0	0
159081LCS	49.1	31.7	81.6	80.0	92.9	79.6	0
Q3-TFS-EB-01	43.4	27.7	72.2	69.8	85.3	70.8	0
Q3-TFS-MW-17	51.8	33.4	89.9	77.6	94.8	78.4	0
Q3-TFS-MW-17-MS	54.6	35.2	91.9	82.0	98.2	81.2	0
Q3-TFS-MW-17-MSD	49.7	32.7	87.8	71.4	90.4	76.2	0

Control Limits

S1	=	2-Fluorophenol	20 - 110
S2	=	Phenol-d5	10 - 115
S3	=	Nitrobenzene-d5	40 - 110
S4	=	2-Fluorobiphenyl	50 - 110
S5	=	2,4,6-Tribromophenol	40 - 125
S6	=	p-Terphenyl-d14	50 - 135

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: DFTPP2.d DFTPP Injection Date: 01/16/13

Instrument ID: SMSD04 DFTPP Injection Time: 0742

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	29.2	
68	Less than 2.0% of mass 69	0.2	(0.53)1
69	Mass 69 relative abundance	43.5	
70	Less than 2.0% of mass 69	0.1	(0.19)1
127	10.0 - 80.0% of mass 198	43.4	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.5	
275	10.0 - 60.0% of mass 198	26	
365	Greater than 1.0% of mass 198	3.8	
441	0.0 - 24.0% of mass 442	12.5	(15.76)2
442	Greater than 50.0% of mass 198	79.3	
443	15.0 - 24.0% of mass 442	15	(18.87)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	STD1146530	47763	8270CAL7.d	01/16/13	0822
2	STD1146528	47764	8270CAL6.d	01/16/13	0843
3	STD1146527	47765	8270CAL5.d	01/16/13	0903
4	STD1146526	48294	8270CAL4.d	01/16/13	0923
5	STD1146525	47767	8270CAL3.d	01/16/13	0943
6	STD1146524	47768	8270CAL2.d	01/16/13	1003
7	STD1146523	47769	8270CAL1.d	01/16/13	1023
8	STD1146549	47885	BSCAL7.d	01/16/13	1107
9	STD1146548	47962	BSCAL6.d	01/16/13	1127
10	STD1146547	47964	BSCAL5.d	01/16/13	1147
11	STD1146546	48782	BSCAL4.D	01/16/13	1207
12	STD1146545	47966	BSCAL3.d	01/16/13	1227
13	STD1146544	47967	BSCAL2.d	01/16/13	1247
14	STD1146543	47968	BSCAL1.d	01/16/13	1307
15	SSC1146551	49205	BSSEC.d	01/16/13	1327
16	STD1146540	47933	AP9CAL7.d	01/16/13	1347
17	STD1146539	47934	AP9CAL6.d	01/16/13	1407
18	STD1146538	47935	AP9CAL5.d	01/16/13	1428
19	STD1146537	48784	AP9CAL4.d	01/16/13	1448

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: DFTPP2.d DFTPP Injection Date: 01/16/13

Instrument ID: SMSD04 DFTPP Injection Time: 0742

GC Column: HPMS-5 ID: 0.25 (mm)

20	STD1146536	47937	AP9CAL3.d	01/16/13	1508
21	STD1146535	47938	AP9CAL2.d	01/16/13	1528
22	STD1146534	47939	AP9CAL1.d	01/16/13	1548
23	SSC1146542	47943	AP9SEC.d	01/16/13	1608
24	SSC1146533	49212	8270SECB.d	01/16/13	1628

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Lab File ID: 47701.d DFTPP Injection Date: 01/22/13

Instrument ID: SMSD04 DFTPP Injection Time: 1032

GC Column: HPMS-5 ID: 0.25 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10.0 - 80.0% of mass 198	27.1	
68	Less than 2.0% of mass 69	0	(0)1
69	Mass 69 relative abundance	42.3	
70	Less than 2.0% of mass 69	0.2	(0.47)1
127	10.0 - 80.0% of mass 198	43.6	
197	Less than 2.0% of mass 198	0	
198	Base Peak, 100% relative abundance	100	
199	5.0 - 9.0% of mass 198	6.4	
275	10.0 - 60.0% of mass 198	26.7	
365	Greater than 1.0% of mass 198	3.1	
441	0.0 - 24.0% of mass 442	14	(16.85)2
442	Greater than 50.0% of mass 198	82.8	
443	15.0 - 24.0% of mass 442	16	(19.28)2

1-Value is % of mass 69

2-Value is % of mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	CCV1147415	48294	8270CCV.d	01/22/13	1105
2	CCV1147417	48782	BSCCV.d	01/22/13	1137
3	CCV1147416	48784	AP9CCV.d	01/22/13	1157
4	159080MB	159080MB	12056MB.d	01/22/13	1228
5	159081LCS	159081LCS	12056LCS.d	01/22/13	1248
6	Q3-TFS-EB-01	350801202	01202.d	01/22/13	1608
7	Q3-TFS-MW-17	350801203	01203.d	01/22/13	1628
8	Q3-TFS-MW-17-MS	350801204	01204.d	01/22/13	1648
9	Q3-TFS-MW-17-MSD	350801205	01205.d	01/22/13	1708

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID (Standard): 8270CAL4.d Date Analyzed: 1/16/2013

Instrument ID: SMSD04 Time Analyzed: 9:23

GC Column: HPMS-5 ID: 0.25 (mm)

		IS1 AREA	#	RT	IS2 AREA	#	RT	IS3 AREA	#	RT
	MID CAL STD	514328		4.48	1738781		5.65	1062468		7.36
	UPPER LIMIT	1028656		4.98	3477562		6.15	2124936		7.86
	LOWER LIMIT	257164		3.98	869390.5		5.15	531234		6.86
	EPA SAMPLE NO.									
1	159080MB	521204		4.48	1833140		5.64	1122973		7.35
2	159081LCS	526443		4.48	1833391		5.65	1113787		7.35
3	Q3-TFS-EB-01	460692		4.48	1603856		5.64	992633		7.35
4	Q3-TFS-MW-17	465388		4.48	1623243		5.64	1022145		7.35
5	Q3-TFS-MW-17-MS	448029		4.48	1575787		5.65	946330		7.35
6	Q3-TFS-MW-17-MSD	466808		4.48	1587230		5.65	1009264		7.35

IS1 = 1,4-Dichlorobenzene-d4

IS2 = Naphthalene-d8

IS3 = Acenaphthene-d10

UPPER LIMIT = +100% of internal standard area.
LOWER LIMIT = -50% of internal standard area

Column used to flag internal standard area values with an asterisk

040213 1554

FORM VIII

8A

SEMI-VOLATILE INTERNAL STANDARD AREA SUMMARY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID (Standard): 8270CAL4.d Date Analyzed: 1/16/2013

Instrument ID: SMSD04 Time Analyzed: 9:23

GC Column: HPMS-5 ID: 0.25 (mm)

		IS4 AREA	#	RT	IS5 AREA	#	RT	IS6 AREA	#	RT
	MID CAL STD	1870683		8.79	2367681		11.41	2312195		12.75
	UPPER LIMIT	3741366		9.29	4735362		11.91	4624390		13.25
	LOWER LIMIT	935341.5		8.29	1183840.5		10.91	1156097.5		12.25
	EPA SAMPLE NO.									
1	159080MB	2042114		8.79	2405944		11.40	2424889		12.74
2	159081LCS	2040495		8.79	2527621		11.40	2466336		12.74
3	Q3-TFS-EB-01	1847488		8.78	2259012		11.40	2208957		12.74
4	Q3-TFS-MW-17	1875981		8.79	2222636		11.40	2215634		12.74
5	Q3-TFS-MW-17-MS	1706494		8.79	2101685		11.40	2082143		12.74
6	Q3-TFS-MW-17-MSD	1771243		8.79	2171660		11.40	2122727		12.74

IS4 = Phenanthrene-d10

IS5 = Chrysene-d12

IS6 = Perylene-d12

UPPER LIMIT = +100%
of internal standard area.
LOWER LIMIT = -50%
of internal standard area

Column used to flag internal standard area values with an asterisk

040213 1554

FORM VIII

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/16/13

Instrument ID: SMSD04

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.44 S2 : 4.19 S3 : 5 S4 : 6.7

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	011613DFTPP2	47701	DFTPP2.d	01/16/13	0742				
2	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/16/13	0759				
3	STD1146530	47763	8270CAL7.d	01/16/13	0822	3.45	4.2	5.01	6.7
4	STD1146528	47764	8270CAL6.d	01/16/13	0843	3.44	4.19	5.01	6.7
5	STD1146527	47765	8270CAL5.d	01/16/13	0903	3.44	4.19	5	6.7
6	STD1146526	48294	8270CAL4.d	01/16/13	0923	3.44	4.19	5	6.7
7	STD1146525	47767	8270CAL3.d	01/16/13	0943	3.44	4.18	5	6.69
8	STD1146524	47768	8270CAL2.d	01/16/13	1003	3.44	4.18	5	6.69
9	STD1146523	47769	8270CAL1.d	01/16/13	1023	3.44	4.18	5	6.69
10	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/16/13	1043				
11	STD1146549	47885	BSCAL7.d	01/16/13	1107				
12	STD1146548	47962	BSCAL6.d	01/16/13	1127				
13	STD1146547	47964	BSCAL5.d	01/16/13	1147				
14	STD1146546	48782	BSCAL4.D	01/16/13	1207				
15	STD1146545	47966	BSCAL3.d	01/16/13	1227				
16	STD1146544	47967	BSCAL2.d	01/16/13	1247				
17	STD1146543	47968	BSCAL1.d	01/16/13	1307				
18	SSC1146551	49205	BSSEC.d	01/16/13	1327				
19	STD1146540	47933	AP9CAL7.d	01/16/13	1347				
20	STD1146539	47934	AP9CAL6.d	01/16/13	1407				
21	STD1146538	47935	AP9CAL5.d	01/16/13	1428				
22	STD1146537	48784	AP9CAL4.d	01/16/13	1448				
23	STD1146536	47937	AP9CAL3.d	01/16/13	1508				
24	STD1146535	47938	AP9CAL2.d	01/16/13	1528				
25	STD1146534	47939	AP9CAL1.d	01/16/13	1548				
26	SSC1146542	47943	AP9SEC.d	01/16/13	1608				

QC LIMITS

S1	=	2-Fluorophenol	(+/- 0.27 MINUTES)
S2	=	Phenol-d5	(+/- 0.27 MINUTES)
S3	=	Nitrobenzene-d5	(+/- 0.34 MINUTES)
S4	=	2-Fluorobiphenyl	(+/- 0.44 MINUTES)
S5	=	2,4,6-Tribromophenol	(+/- 0.44 MINUTES)
S6	=	p-Terphenyl-d14	(+/- 0.68 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

8

SEMI-VOLATILE ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: HPMS-5 ID: 0.25 (mm) Init. Calib. Date: 01/16/13

Instrument ID: SMSD04

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.44 S2 : 4.19 S3 : 5 S4 : 6.7

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
27	SSC1146533	49212	8270SECB.d	01/16/13	1628	3.43	4.18	5	6.69
28	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	0946				
29	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1011				
30	012213DFTPP1	47701	47701.d	01/22/13	1032				
31	CCV1147415	48294	8270CCV.d	01/22/13	1105	3.43	4.18	5	6.69
32	CCV1147417	48782	BSCCV.d	01/22/13	1137				
33	CCV1147416	48784	AP9CCV.d	01/22/13	1157				
34	159080MB	159080MB	12056MB.d	01/22/13	1228	3.43	4.17	4.99	6.69
35	159081LCS	159081LCS	12056LCS.d	01/22/13	1248	3.43	4.18	5	6.69
36	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1308				
37	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1328				
38	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1348				
39	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1408				
40	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1428				
41	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1448				
42	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1508				
43	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1528				
44	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1548				
45	Q3-TFS-EB-01	350801202	01202.d	01/22/13	1608	3.43	4.18	4.99	6.69
46	Q3-TFS-MW-17	350801203	01203.d	01/22/13	1628	3.43	4.18	4.99	6.69
47	Q3-TFS-MW-17-MS	350801204	01204.d	01/22/13	1648	3.43	4.18	5	6.69
48	Q3-TFS-MW-17-MSD	350801205	01205.d	01/22/13	1708	3.44	4.18	5	6.69
49	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1728				
50	ZZZZZZ	ZZZZZZ	ZZZZZZ	01/22/13	1748				

			QC LIMITS
S1	=	2-Fluorophenol	(+/- 0.27 MINUTES)
S2	=	Phenol-d5	(+/- 0.27 MINUTES)
S3	=	Nitrobenzene-d5	(+/- 0.34 MINUTES)
S4	=	2-Fluorobiphenyl	(+/- 0.44 MINUTES)
S5	=	2,4,6-Tribromophenol	(+/- 0.44 MINUTES)
S6	=	p-Terphenyl-d14	(+/- 0.68 MINUTES)

Column used to flag retention time values with an asterisk.

* Values outside of QC limits

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Pyridine	40	19.1	47.8			22 - 70
N-Nitrosodimethylamine	40	20.2	50.5			25 - 110
Aniline	40	29.8	74.5			14 - 99
Bis(2-chloroethyl)ether	40	38.9	97.2			35 - 110
Phenol	40	14.3	35.8			0 - 115
2-Chlorophenol	40	32.5	81.2			35 - 105
1,3-Dichlorobenzene	40	28.3	70.8			30 - 100
1,4-Dichlorobenzene	40	28.8	72.0			30 - 100
1,2-Dichlorobenzene	40	29.7	74.2			35 - 100
Benzyl alcohol	40	30.4	76.0			30 - 110
2,2'-Oxybis(1-chloropropane)	40	36.4	91.0			25 - 130
2-Methylphenol	40	29.7	74.2			40 - 110
Hexachloroethane	40	27.8	69.5			30 - 95
N-Nitroso-di-n-propylamine	40	39.8	99.5			35 - 130
4-Methylphenol	40	27.7	69.2			30 - 110
Nitrobenzene	40	35.6	89.0			45 - 110
Isophorone	40	30.4	76.0			50 - 110
2-Nitrophenol	40	37.3	93.2			40 - 115
2,4-Dimethylphenol	40	40.2	100.0			30 - 110
Bis(2-chloroethoxy)methane	40	50.4	126.0 *			45 - 105
2,4-Dichlorophenol	40	34.9	87.2			50 - 105
1,2,4-Trichlorobenzene	40	31	77.5			35 - 105
4-Chloroaniline	40	35.4	88.5			15 - 110
Hexachlorobutadiene	40	31.6	79.0			25 - 105
4-Chloro-3-methylphenol	40	35.4	88.5			45 - 110
Hexachlorocyclopentadiene	40	15.1	37.8			13 - 80
2,4,6-Trichlorophenol	40	38.4	96.0			50 - 115
2,4,5-Trichlorophenol	40	38.8	97.0			50 - 110
2-Chloronaphthalene	40	35.7	89.2			50 - 105
2-Nitroaniline	40	39.3	98.2			50 - 115
Dimethylphthalate	40	39.7	99.2			25 - 125
2,6-Dinitrotoluene	40	38.1	95.2			50 - 115

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
3-Nitroaniline	40	38	95.0			20 - 125
2,4-Dinitrophenol	80	97.7	122.0			15 - 140
Dibenzofuran	40	38.2	95.5			55 - 105
2,4-Dinitrotoluene	40	39.8	99.5			50 - 120
4-Nitrophenol	40	15	37.5			0 - 125
4-Chlorophenyl-phenylether	40	37.4	93.5			50 - 110
Diethylphthalate	40	39.5	98.8			40 - 120
4-Nitroaniline	40	44.5	111.0			35 - 120
4,6-Dinitro-2-methylphenol	40	42.3	106.0			40 - 130
N-Nitrosodiphenylamine	40	37.8	94.5			50 - 110
4-Bromophenyl-phenylether	40	36.9	92.2			50 - 115
Hexachlorobenzene	40	37.3	93.2			50 - 110
Pentachlorophenol	40	50.4	126.0*			40 - 115
Di-n-butylphthalate	40	39.4	98.5			55 - 115
Butylbenzylphthalate	40	41.9	105.0			45 - 115
3,3'-Dichlorobenzidine	80	71.8	89.8			20 - 110
Bis(2-ethylhexyl)phthalate	40	40.2	100.0			40 - 125
Di-n-octylphthalate	40	42.2	106.0			35 - 135
2-Picoline	40	23.3	58.2			15 - 110
N-Nitrosomethylethylamine	40	28.5	71.2			25 - 131
N-Nitrosodiethylamine	40	33.6	84.0			46 - 111
Methylmethanesulfonate	40	24.2	60.5			15 - 103
Ethyl methanesulfonate	40	38.6	96.5			46 - 113
Pentachloroethane	40	33	82.5			27 - 99
N-Nitrosopyrrolidine	40	32.2	80.5			51 - 112
Acetophenone	80	65.5	81.9			45 - 118
N-Nitrosomorpholine	40	31.8	79.5			51 - 112
o-Toluidine	40	29	72.5			49 - 97
a,a-Dimethylphenethylamine	40	0	7.8*			70 - 130
2,6-Dichlorophenol	40	36.3	90.8			50 - 135
Hexachloropropene	40	0	0.0*			21 - 105
N-Nitrosodibutylamine	40	32.7	81.8			43 - 130

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

SEMI-VOLATILE ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW. 159081LCS

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
Isosafrole	40	37.9	94.8			70 - 130
1,2,4,5-Tetrachlorobenzene	40	31.6	79.0			40 - 100
Safrole	40	44.7	112.0 *			52 - 100
1,4-Naphthoquinone	40	6.4	16.0 *			28 - 143
1,3-Dinitrobenzene	40	37.8	94.5			61 - 112
Pentachlorobenzene	40	32	80.0			50 - 99
1-Naphthylamine	40	16	40.0			38 - 91
2-Naphthylamine	40	14.3	35.8 *			70 - 130
2,3,4,6-Tetrachlorophenol	40	38.2	95.5			55 - 122
5-Nitro-o-toluidine	40	36.4	91.0			70 - 130
p-Phenylenediamine	40	35	87.5			58 - 107
Phenacetin	40	34.3	85.8			57 - 114
4-Aminobiphenyl	40	27.7	69.2			49 - 103
Pronamide	40	34.9	87.2			59 - 99
Pentachloronitrobenzene(PCNB)	40	34.7	86.8			60 - 104
Dinoseb	40	39.6	99.0			44 - 142
4-Nitroquinoline-1-oxide	40	38	95.0			10 - 125
Methapyriline	40	18.7	46.8			0 - 90
Aramite	40	28.3	70.8			41 - 127
p-Dimethylaminoazobenzene	40	35.1	87.8			70 - 130
2-Acetylaminofluorene	40	37	92.5			63 - 103
7,12-Dimethylbenz(a)anthracene	40	38.5	96.2 *			57 - 95
3-Methylcholanthrene	40	48.8	122.0 *			52 - 105
N-Nitrosopiperidine	40	34.5	86.2			53 - 112
1,3,5-Trinitrobenzene	40	17.8	44.5			29 - 163
Diallate (Avadex)	40	35	87.5			56 - 98
Isodrin	40	38.3	95.8			54 - 110
Chlorobenzilate	40	34.9	87.2			58 - 101
Kepone	40	41.6	104.0			0 - 165
0,0,0-Triethylphosphorothioate	40	31.6	79.0			50 - 106

Spike Recovery: 9 out of 94 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1554

Form III

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
Pyridine	40	0	17	42.3	22 - 70
N-Nitrosodimethylamine	40	0	24	60.2	25 - 110
Aniline	40	0	30	74.1	14 - 99
Bis(2-chloroethyl)ether	40	0	40	100.0	35 - 110
Phenol	40	0	16	40.0	0 - 115
2-Chlorophenol	40	0	34	85.1	35 - 105
1,3-Dichlorobenzene	40	0	28	69.2	30 - 100
1,4-Dichlorobenzene	40	0	29	71.1	30 - 100
1,2-Dichlorobenzene	40	0	29	72.1	35 - 100
Benzyl alcohol	40	0	33	81.8	30 - 110
2,2'-Oxybis(1-chloropropane)	40	0	37	92.0	25 - 130
2-Methylphenol	40	0	32	78.6	40 - 110
Hexachloroethane	40	0	28	70.6	30 - 95
N-Nitroso-di-n-propylamine	40	0	43	106.0	35 - 130
4-Methylphenol	40	0	30	75.4	30 - 110
Nitrobenzene	40	0	38	94.0	45 - 110
Isophorone	40	0	31	77.6	50 - 110
2-Nitrophenol	40	0	38	93.8	40 - 115
2,4-Dimethylphenol	40	0	42	104.0	30 - 110
Bis(2-chloroethoxy)methane	40	0	50	125.0*	45 - 105
2,4-Dichlorophenol	40	0	36	90.5	50 - 105
1,2,4-Trichlorobenzene	40	0	29	71.1	35 - 105
4-Chloroaniline	40	0	32	79.8	15 - 110
Hexachlorobutadiene	40	0	29	73.1	25 - 105
4-Chloro-3-methylphenol	40	0	37	92.3	45 - 110
Hexachlorocyclopentadiene	40	0	10	25.1	13 - 80
2,4,6-Trichlorophenol	40	0	40	100.0	50 - 115
2,4,5-Trichlorophenol	40	0	39	97.5	50 - 110
2-Chloronaphthalene	40	0	32	79.8	50 - 105
2-Nitroaniline	40	0	41	103.0	50 - 115

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
Dimethylphthalate	40	0	41	102.0	25 - 125
2,6-Dinitrotoluene	40	0	40	98.3	50 - 115
3-Nitroaniline	40	0	37	91.0	20 - 125
2,4-Dinitrophenol	80	0	100	124.0	15 - 140
Dibenzofuran	40	0	36	89.6	55 - 105
2,4-Dinitrotoluene	40	0	42	105.0	50 - 120
4-Nitrophenol	40	0	17	42.3	0 - 125
4-Chlorophenyl-phenylether	40	0	34	83.8	50 - 110
Diethylphthalate	40	0	42	105.0	40 - 120
4-Nitroaniline	40	0	42	105.0	35 - 120
4,6-Dinitro-2-methylphenol	40	0	44	108.0	40 - 130
N-Nitrosodiphenylamine	40	0	40	99.3	50 - 110
4-Bromophenyl-phenylether	40	0	37	93.0	50 - 115
Hexachlorobenzene	40	0	36	89.8	50 - 110
Pentachlorophenol	40	0	52	130.0*	40 - 115
Di-n-butylphthalate	40	0	40	100.0	55 - 115
Butylbenzylphthalate	40	0	40	100.0	45 - 115
3,3'-Dichlorobenzidine	80	0	34	42.0	20 - 110
Bis(2-ethylhexyl)phthalate	40	0	41	101.0	40 - 125
Di-n-octylphthalate	40	0	42	105.0	35 - 135
2-Picoline	40	0	20	49.0	15 - 110
N-Nitrosomethylethylamine	40	0	28	69.9	25 - 131
N-Nitrosodiethylamine	40	0	34	85.6	46 - 111
Methylmethanesulfonate	40	0	26	63.9	15 - 103
Ethyl methanesulfonate	40	0	38	95.8	46 - 113
Pentachloroethane	40	0	28	70.9	27 - 99
N-Nitrosopyrrolidine	40	0	32	78.6	51 - 112
Acetophenone	80	0	70	86.4	45 - 118
N-Nitrosomorpholine	40	0	33	81.3	51 - 112
o-Toluidine	40	0	26	64.7	49 - 97

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
a,a-Dimethylphenethylamine	40	0	0	17.4*	70 - 130
2,6-Dichlorophenol	40	0	36	89.8	50 - 135
Hexachloropropene	40	0	0	0.0*	21 - 105
N-Nitrosodibutylamine	40	0	36	88.3	43 - 130
Isosafrole	40	0	34	85.1	70 - 130
1,2,4,5-Tetrachlorobenzene	40	0	25	61.2	40 - 100
Safrole	40	0	41	103.0*	52 - 100
1,4-Naphthoquinone	40	0	0	0.0*	28 - 143
1,3-Dinitrobenzene	40	0	39	97.3	61 - 112
Pentachlorobenzene	40	0	26	64.4	50 - 99
1-Naphthylamine	40	0	13	33.1*	38 - 91
2-Naphthylamine	40	0	10	25.1*	70 - 130
2,3,4,6-Tetrachlorophenol	40	0	38	95.0	55 - 122
5-Nitro-o-toluidine	40	0	34	84.1	70 - 130
p-Phenylenediamine	40	0	36	89.8	58 - 107
Phenacetin	40	0	32	78.6	57 - 114
4-Aminobiphenyl	40	0	11	27.4*	49 - 103
Pronamide	40	0	34	84.8	59 - 99
Pentachloronitrobenzene(PCNB)	40	0	35	86.8	60 - 104
Dinoseb	40	0	40	98.3	44 - 142
4-Nitroquinoline-1-oxide	40	0	0	0.0*	10 - 125
Methapyriline	40	0	20	51.0	0 - 90
Aramite	40	0	26	63.4	41 - 127
p-Dimethylaminoazobenzene	40	0	27	66.2*	70 - 130
2-Acetylaminofluorene	40	0	36	90.0	63 - 103
7,12-Dimethylbenz(a)anthracene	40	0	38	95.5*	57 - 95
3-Methylcholanthrene	40	0	48	120.0*	52 - 105
N-Nitrosopiperidine	40	0	34	85.1	53 - 112
1,3,5-Trinitrobenzene	40	0	16	38.6	29 - 163
Diallate (Avadex)	40	0	34	84.1	56 - 98

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
Isodrin	40	0	9.3	23.1 *	54 - 110
Chlorobenzilate	40	0	34	85.8	58 - 101
Kepone	40	0	0	35.1	0 - 165
0,0,0-Triethylphosphorothioate	40	0	30	74.9	50 - 106

Spike Recovery: 14 out of 94 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Q3-TFS-MW-17-MSD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Pyridine	40	18	44.0	4.0	20	22 - 70
N-Nitrosodimethylamine	40	23	56.2	6.8	20	25 - 110
Aniline	40	30	75.9	2.3	20	14 - 99
Bis(2-chloroethyl)ether	40	39	96.3	3.8	20	35 - 110
Phenol	40	15	38.3	4.4	20	0 - 115
2-Chlorophenol	40	32	80.1	6.0	20	35 - 105
1,3-Dichlorobenzene	40	26	63.9	7.9	20	30 - 100
1,4-Dichlorobenzene	40	26	64.7	9.5	20	30 - 100
1,2-Dichlorobenzene	40	27	66.9	7.5	20	35 - 100
Benzyl alcohol	40	31	76.4	6.9	20	30 - 110
2,2'-Oxybis(1-chloropropane)	40	35	86.3	6.4	20	25 - 130
2-Methylphenol	40	30	75.9	3.5	20	40 - 110
Hexachloroethane	40	25	62.7	11.9	20	30 - 95
N-Nitroso-di-n-propylamine	40	41	102.0	4.6	20	35 - 130
4-Methylphenol	40	29	71.4	5.4	20	30 - 110
Nitrobenzene	40	38	94.0	0.0	20	45 - 110
Isophorone	40	31	77.6	0.0	20	50 - 110
2-Nitrophenol	40	38	93.3	0.5	20	40 - 115
2,4-Dimethylphenol	40	38	94.0	10.5	20	30 - 110
Bis(2-chloroethoxy)methane	40	52	128.0*	2.6	20	45 - 105
2,4-Dichlorophenol	40	36	88.3	2.5	20	50 - 105
1,2,4-Trichlorobenzene	40	28	68.7	3.6	20	35 - 105
4-Chloroaniline	40	33	81.6	2.2	20	15 - 110
Hexachlorobutadiene	40	29	71.6	2.1	20	25 - 105
4-Chloro-3-methylphenol	40	38	93.3	1.1	20	45 - 110
Hexachlorocyclopentadiene	40	8.8	21.9	13.8	20	13 - 80
2,4,6-Trichlorophenol	40	38	93.8	6.9	20	50 - 115
2,4,5-Trichlorophenol	40	39	96.0	1.5	20	50 - 110
2-Chloronaphthalene	40	30	75.6	5.4	20	50 - 105
2-Nitroaniline	40	38	95.3	7.5	20	50 - 115

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Q3-TFS-MW-17-MSD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Dimethylphthalate	40	39	96.0	5.5	20	25 - 125
2,6-Dinitrotoluene	40	39	97.0	1.3	20	50 - 115
3-Nitroaniline	40	35	86.1	5.6	20	20 - 125
2,4-Dinitrophenol	80	95	119.0	4.5	20	15 - 140
Dibenzofuran	40	34	84.1	6.3	20	55 - 105
2,4-Dinitrotoluene	40	40	99.3	5.4	20	50 - 120
4-Nitrophenol	40	17	42.3	0.0	20	0 - 125
4-Chlorophenyl-phenylether	40	31	77.6	7.7	20	50 - 110
Diethylphthalate	40	39	97.8	6.9	20	40 - 120
4-Nitroaniline	40	40	100.0	5.1	20	35 - 120
4,6-Dinitro-2-methylphenol	40	42	105.0	3.0	20	40 - 130
N-Nitrosodiphenylamine	40	40	98.3	1.0	20	50 - 110
4-Bromophenyl-phenylether	40	35	86.6	7.2	20	50 - 115
Hexachlorobenzene	40	35	87.6	2.5	20	50 - 110
Pentachlorophenol	40	51	127.0*	2.1	20	40 - 115
Di-n-butylphthalate	40	40	99.3	1.2	20	55 - 115
Butylbenzylphthalate	40	41	101.0	1.2	20	45 - 115
3,3'-Dichlorobenzidine	80	34	42.4	0.9	20	20 - 110
Bis(2-ethylhexyl)phthalate	40	41	103.0	1.5	20	40 - 125
Di-n-octylphthalate	40	41	102.0	2.9	20	35 - 135
2-Picoline	40	22	54.7	11.0	20	15 - 110
N-Nitrosomethylethylamine	40	29	71.4	2.1	20	25 - 131
N-Nitrosodiethylamine	40	34	84.6	1.2	20	46 - 111
Methylmethanesulfonate	40	24	60.7	5.2	20	15 - 103
Ethyl methanesulfonate	40	39	96.3	0.5	20	46 - 113
Pentachloroethane	40	28	68.9	2.8	20	27 - 99
N-Nitrosopyrrolidine	40	32	79.8	1.6	20	51 - 112
Acetophenone	80	70	86.4	0.0	20	45 - 118
N-Nitrosomorpholine	40	32	80.6	0.9	20	51 - 112
o-Toluidine	40	27	66.2	2.3	20	49 - 97

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268 Q3-TFS-MW-17-MSD

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
a,a-Dimethylphenethylamine	40	0	11.2*	43.5	20	70 - 130
2,6-Dichlorophenol	40	36	89.1	0.8	20	50 - 135
Hexachloropropene	40	0	0.0*		20	21 - 105
N-Nitrosodibutylamine	40	38	94.8	7.1	20	43 - 130
Isosafrole	40	35	86.8	2.0	20	70 - 130
1,2,4,5-Tetrachlorobenzene	40	25	61.4	0.4	20	40 - 100
Safrole	40	44	109.0*	5.9	20	52 - 100
1,4-Naphthoquinone	40	0	0.0*		20	28 - 143
1,3-Dinitrobenzene	40	38	94.8	2.6	20	61 - 112
Pentachlorobenzene	40	26	63.7	1.2	20	50 - 99
1-Naphthylamine	40	14	33.6*	1.5	20	38 - 91
2-Naphthylamine	40	11	27.9*	10.3	20	70 - 130
2,3,4,6-Tetrachlorophenol	40	38	94.0	1.1	20	55 - 122
5-Nitro-o-toluidine	40	33	82.8	1.5	20	70 - 130
p-Phenylenediamine	40	36	90.3	0.6	20	58 - 107
Phenacetin	40	32	79.4	0.9	20	57 - 114
4-Aminobiphenyl	40	12	30.1*	9.5	20	49 - 103
Pronamide	40	35	87.6	3.2	20	59 - 99
Pentachloronitrobenzene(PCNB)	40	35	87.1	0.3	20	60 - 104
Dinoseb	40	40	100.0	1.8	20	44 - 142
4-Nitroquinoline-1-oxide	40	0	0.0*		20	10 - 125
Methapyriline	40	19	47.5	7.1	20	0 - 90
Aramite	40	25	61.7	2.8	20	41 - 127
p-Dimethylaminoazobenzene	40	27	67.7*	2.2	20	70 - 130
2-Acetylaminofluorene	40	37	91.5	1.6	20	63 - 103
7,12-Dimethylbenz(a)anthracene	40	39	96.8*	1.3	20	57 - 95
3-Methylcholanthrene	40	49	121.0*	0.6	20	52 - 105
N-Nitrosopiperidine	40	36	89.1	4.6	20	53 - 112
1,3,5-Trinitrobenzene	40	15	37.8	2.0	20	29 - 163
Diallate (Avadex)	40	34	83.8	0.3	20	56 - 98

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

3

SEMI-VOLATILE ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Q3-TFS-MW-17-MSD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Isodrin	40	8.6	21.4*	7.8	20	54 - 110
Chlorobenzilate	40	35	86.8	1.2	20	58 - 101
Kepone	40	0	34.3	2.2	20	0 - 165
0,0,0-Triethylphosphorothioate	40	31	77.4	3.3	20	50 - 106

RPD: 1 out of 94 outside limits

Spike Recovery: 14 out of 94 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1554

8270 Standards Data

040213 1554

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND		RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
Pyridine		1.546	1.647	1.607	1.648	1.684			
N-Nitrosodimethylamine		0.115	0.129	0.124	0.119	0.129			
Aniline		2.047	1.949	1.891	1.828	1.800			
Bis(2-chloroethyl)ether		1.250	1.311	1.284	1.306	1.305			
Phenol	*	1.694	1.768	1.772	1.843	1.878		*	
2-Chlorophenol		1.240	1.298	1.296	1.305	1.337			
1,3-Dichlorobenzene		1.489	1.506	1.470	1.492	1.525			
1,4-Dichlorobenzene	*	1.542	1.571	1.524	1.553	1.559		*	
1,2-Dichlorobenzene		1.339	1.400	1.402	1.420	1.451			
Benzyl alcohol		0.829	0.837	0.874	0.910	0.923			
2,2'-Oxybis(1-chloropropane)		1.074	1.110	1.070	1.111	1.116			
2-Methylphenol		1.035	1.080	1.080	1.110	1.123			
Hexachloroethane		0.642	0.613	0.601	0.614	0.621			
N-Nitroso-di-n-propylamine	#	0.998	1.003	1.065	1.080	1.088		#	
4-Methylphenol		1.502	1.580	1.631	1.651	1.681			
Nitrobenzene		0.426	0.445	0.457	0.466	0.460			
Isophorone		0.747	0.803	0.807	0.837	0.831			
2-Nitrophenol	*	0.182	0.199	0.211	0.216	0.214		*	
2,4-Dimethylphenol		0.305	0.300	0.304	0.323	0.321			
Bis(2-chloroethoxy)methane		0.446	0.463	0.476	0.498	0.498			
2,4-Dichlorophenol	*	0.317	0.331	0.333	0.344	0.342		*	
1,2,4-Trichlorobenzene		0.351	0.359	0.362	0.371	0.366			
4-Chloroaniline		0.425	0.433	0.431	0.453	0.447			
Hexachlorobutadiene	*	0.226	0.237	0.228	0.238	0.242		*	
4-Chloro-3-methylphenol	*	0.345	0.380	0.373	0.386	0.382		*	
Hexachlorocyclopentadiene	#	0.440	0.477	0.476	0.502	0.517		#	
2,4,6-Trichlorophenol	*	0.398	0.437	0.420	0.452	0.446		*	
2,4,5-Trichlorophenol		0.460	0.451	0.462	0.483	0.477			
2-Chloronaphthalene		1.162	1.181	1.135	1.190	1.196			
2-Nitroaniline		0.336	0.384	0.381	0.397	0.407			
Dimethylphthalate		1.349	1.406	1.357	1.402	1.379			
2,6-Dinitrotoluene		0.276	0.331	0.314	0.331	0.342			
3-Nitroaniline		0.303	0.322	0.321	0.319	0.316			
2,4-Dinitrophenol	#		0.145	0.189	0.216	0.229		#	

040213 1554

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND	RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
Dibenzofuran	1.540	1.622	1.572	1.642	1.646			
2,4-Dinitrotoluene	0.372	0.440	0.412	0.420	0.415			
4-Nitrophenol #	0.207	0.230	0.229	0.239	0.247		#	
4-Chlorophenyl-phenylether	0.718	0.741	0.713	0.759	0.748			
Diethylphthalate	1.278	1.299	1.237	1.278	1.291			
4-Nitroaniline	0.274	0.298	0.262	0.301	0.305			
4,6-Dinitro-2-methylphenol	0.107	0.127	0.140	0.170	0.170			
N-Nitrosodiphenylamine *	0.513	0.532	0.547	0.548	0.541		*	
4-Bromophenyl-phenylether	0.224	0.237	0.234	0.236	0.237			
Hexachlorobenzene	0.228	0.231	0.248	0.248	0.247			
Pentachlorophenol *	0.121	0.141	0.149	0.169	0.174		*	
Di-n-butylphthalate	1.129	1.212	1.284	1.271	1.278			
Butylbenzylphthalate	0.454	0.480	0.480	0.474	0.490			
3,3'-Dichlorobenzidine	0.429	0.429	0.421	0.404	0.407			
Bis(2-ethylhexyl)phthalate	0.591	0.668	0.680	0.681	0.710			
Di-n-octylphthalate *	1.073	1.163	1.197	1.263	1.327		*	
2-Picoline	1.696	1.646	1.679	1.699	1.722			
N-Nitrosomethylethylamine	0.764	0.756	0.765	0.746	0.775			
N-Nitrosodiethylamine	0.672	0.671	0.729	0.727	0.752			
Methylmethanesulfonate	0.880	0.907	0.869	0.870	0.831			
Ethyl methanesulfonate	1.050	1.077	1.087	1.127	1.159			
Pentachloroethane	0.597	0.530	0.581	0.577	0.586			
N-Nitrosopyrrolidine	0.672	0.708	0.720	0.810	0.828			
Acetophenone	0.652	0.600	0.589	0.600	0.617			
N-Nitrosomorpholine	0.804	0.712	0.754	0.780	0.795			
o-Toluidine	2.376	2.288	2.296	2.365	2.397			
a,a-Dimethylphenethylamine	0.737	0.820	0.805	0.857	0.863			
2,6-Dichlorophenol	0.297	0.308	0.300	0.328	0.319			
Hexachloropropene	0.302	0.300	0.299	0.320	0.320			
N-Nitrosodibutylamine	0.307	0.309	0.314	0.336	0.344			
Isosafrole	0.270	0.289	0.280	0.298	0.305			
1,2,4,5-Tetrachlorobenzene	0.658	0.668	0.686	0.693	0.686			
Safrole	0.241	0.246	0.243	0.259	0.268			
1,4-Naphthoquinone	0.355	0.434	0.471	0.477	0.475			

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF4 =8270CAL1.d RRF10 =8270CAL2.d
RRF20 =8270CAL3.d RRF45 =8270CAL4.d RRF60 =8270CAL5.d

COMPOUND	RRF4	RRF10	RRF20	RRF45	RRF60	$\overline{RRF}$	%RSD OR R^2	RSD
1,3-Dinitrobenzene	0.188	0.200	0.216	0.234	0.236			
Pentachlorobenzene	0.584	0.561	0.597	0.597	0.600			
1-Naphthylamine	1.142	1.133	1.187	1.215	1.183			
2-Naphthylamine	1.256	1.287	1.368	1.357	1.355			
2,3,4,6-Tetrachlorophenol	0.365	0.337	0.385	0.405	0.413			
5-Nitro-o-toluidine	0.333	0.386	0.407	0.414	0.403			
p-Phenylenediamine	0.361	0.395	0.419	0.451	0.459			
Phenacetin	0.340	0.405	0.429	0.459	0.458			
4-Aminobiphenyl	0.794	0.810	0.826	0.870	0.846			
Pronamide	0.336	0.335	0.359	0.394	0.387			
Pentachloronitrobenzene(PCNB)	0.113	0.118	0.115	0.117	0.111			
Dinoseb	0.113	0.149	0.173	0.205	0.221			
4-Nitroquinoline-1-oxide	0.011	0.017	0.018	0.014	0.012			
Methapyriline	0.217	0.240	0.236	0.279	0.243			
Aramite	0.155	0.151	0.150	0.162	0.163			
p-Dimethylaminoazobenzene	0.222	0.231	0.227	0.246	0.253			
2-Acetylaminofluorene	0.398	0.429	0.466	0.524	0.543			
7,12-Dimethylbenz(a)anthracene	0.473	0.479	0.488	0.521	0.533			
3-Methylcholanthrene	0.396	0.405	0.416	0.436	0.428			
N-Nitrosopiperidine	0.187	0.191	0.187	0.212	0.213			
1,3,5-Trinitrobenzene	0.655	0.739	0.857	0.903	0.921			
Diallate (Avadex)	0.576	0.619	0.632	0.637	0.644			
Isodrin	0.125	0.122	0.122	0.132	0.129			
Chlorobenzilate	0.324	0.313	0.310	0.330	0.329			
Kepone	0.110	0.109	0.102	0.104	0.099			
0,0,0-Triethylphosphorothioate	0.802	0.753	0.802	0.808	0.823			
==========								
2-Fluorophenol(SURR)	1.234	1.324	1.304	1.329	1.369			
Phenol-d5(SURR)	1.600	1.669	1.723	1.774	1.811			
Nitrobenzene-d5(SURR)	0.446	0.461	0.468	0.485	0.481			
2-Fluorobiphenyl(SURR)	1.458	1.478	1.434	1.506	1.507			
2,4,6-Tribromophenol(SURR)	0.205	0.229	0.217	0.227	0.226			
p-Terphenyl-d14(SURR)	0.807	0.833	0.819	0.800	0.812			

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND		RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2		RSD
Pyridine		1.652	1.707				1.6416	3.2		
N-Nitrosodimethylamine		0.127	0.133				0.12505	5		
Aniline		1.774	1.748				1.86251	5.7		
Bis(2-chloroethyl)ether		1.331	1.341				1.30398	2.3		
Phenol	*	1.911	1.983				1.83559	5.3	*	
2-Chlorophenol		1.335	1.341				1.30741	2.7		
1,3-Dichlorobenzene		1.522	1.510				1.50207	1.3		
1,4-Dichlorobenzene	*	1.569	1.568				1.55526	1.1	*	
1,2-Dichlorobenzene		1.440	1.434				1.4123	2.7		
Benzyl alcohol		0.921	0.936				0.89003	4.9		
2,2'-Oxybis(1-chloropropane)		1.143	1.136				1.10869	2.5		
2-Methylphenol		1.121	1.123				1.09615	3		
Hexachloroethane		0.618	0.615				0.61769	2		
N-Nitroso-di-n-propylamine	#	1.083	1.090				1.05806	3.8	#	
4-Methylphenol		1.672	1.695				1.63028	4.2		
Nitrobenzene		0.461	0.478				0.45628	3.6		
Isophorone		0.844	0.867				0.8192	4.7		
2-Nitrophenol	*	0.213	0.223				0.2082	6.6	*	
2,4-Dimethylphenol		0.322	0.340				0.31641	4.5		
Bis(2-chloroethoxy)methane		0.493	0.515				0.484	4.9		
2,4-Dichlorophenol	*	0.343	0.358				0.33814	3.9	*	
1,2,4-Trichlorobenzene		0.366	0.379				0.36489	2.4		
4-Chloroaniline		0.449	0.460				0.44254	2.9		
Hexachlorobutadiene	*	0.240	0.248				0.23702	3.3	*	
4-Chloro-3-methylphenol	*	0.388	0.402				0.37931	4.6	*	
Hexachlorocyclopentadiene	#	0.520	0.531				0.49456	6.5	#	
2,4,6-Trichlorophenol	*	0.449	0.452				0.43642	4.7	*	
2,4,5-Trichlorophenol		0.498	0.491				0.47466	3.7		
2-Chloronaphthalene		1.202	1.213				1.18274	2.2		
2-Nitroaniline		0.423	0.412				0.39125	7.3		
Dimethylphthalate		1.387	1.374				1.37896	1.5		
2,6-Dinitrotoluene		0.338	0.338				0.32433	7.2		
3-Nitroaniline		0.327	0.321				0.31834	2.4		
2,4-Dinitrophenol	#	0.237	0.241				0.20945	0.99938	#	17.55718

040213 1554

FORM VI

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND	RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2	RSD
Dibenzofuran	1.662	1.650				1.61907	2.8	
2,4-Dinitrotoluene	0.428	0.423				0.41569	5.2	
4-Nitrophenol #	0.254	0.242				0.23538	6.6 #	
4-Chlorophenyl-phenylether	0.752	0.743				0.73922	2.3	
Diethylphthalate	1.327	1.316				1.28932	2.3	
4-Nitroaniline	0.306	0.289				0.2907	5.8	
4,6-Dinitro-2-methylphenol	0.173	0.176				0.15179	0.99935	
N-Nitrosodiphenylamine *	0.536	0.547				0.53761	2.3 *	
4-Bromophenyl-phenylether	0.230	0.234				0.23305	2.1	
Hexachlorobenzene	0.244	0.250				0.24232	3.7	
Pentachlorophenol *	0.175	0.179				0.1582	13.8 *	
Di-n-butylphthalate	1.271	1.265				1.24427	4.5	
Butylbenzylphthalate	0.491	0.488				0.47936	2.7	
3,3'-Dichlorobenzidine	0.416	0.435				0.42003	2.8	
Bis(2-ethylhexyl)phthalate	0.714	0.715				0.67976	6.4	
Di-n-octylphthalate *	1.325	1.251				1.22836	7.5 *	
2-Picoline	1.778	1.748				1.70949	2.6	
N-Nitrosomethylethylamine	0.769	0.764				0.76276	1.2	
N-Nitrosodiethylamine	0.765	0.752				0.7239	5.3	
Methylmethanesulfonate	0.847	0.792				0.85648	4.3	
Ethyl methanesulfonate	1.178	1.164				1.12038	4.4	
Pentachloroethane	0.597	0.591				0.57996	4	
N-Nitrosopyrrolidine	0.845	0.859				0.7776	9.7	
Acetophenone	0.605	0.605				0.60968	3.4	
N-Nitrosomorpholine	0.806	0.799				0.77865	4.4	
o-Toluidine	2.420	2.374				2.35934	2.1	
a,a-Dimethylphenethylamine	0.848	0.850				0.82558	5.4	
2,6-Dichlorophenol	0.308	0.308				0.30979	3.4	
Hexachloropropene	0.286	0.309				0.30528	4	
N-Nitrosodibutylamine	0.338	0.336				0.32647	4.8	
Isosafrole	0.297	0.300				0.2912	4.3	
1,2,4,5-Tetrachlorobenzene	0.686	0.702				0.6827	2.2	
Safrole	0.255	0.260				0.25328	4	
1,4-Naphthoquinone	0.474	0.460				0.44919	9.8	

SEMI-VOLATILE ORGANIC INITIAL CALIBRATION DATA

Lab Name: PEL, Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SMSD04 Calibration Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm) Calibration Time Begin: 822 End: 1548

Min RRF for SPCC(#) = 0.05 Max %RSD for CCC(*) = 30 %

LAB FILE ID: RRF75 =8270CAL6.d RRF100 =8270CAL7.d

COMPOUND	RRF75	RRF100				$\overline{RRF}$	%RSD OR R^2	RSD
1,3-Dinitrobenzene	0.232	0.239				0.22077	9.1	
Pentachlorobenzene	0.591	0.603				0.59029	2.4	
1-Naphthylamine	1.128	1.160				1.164	2.8	
2-Naphthylamine	1.310	1.330				1.32332	3.1	
2,3,4,6-Tetrachlorophenol	0.397	0.414				0.38814	7.3	
5-Nitro-o-toluidine	0.404	0.413				0.39423	7.2	
p-Phenylenediamine	0.459	0.463				0.42963	9.1	
Phenacetin	0.468	0.476				0.43346	11	
4-Aminobiphenyl	0.843	0.855				0.83479	3.2	
Pronamide	0.395	0.397				0.37203	7.6	
Pentachloronitrobenzene(PCNB)	0.114	0.115				0.11481	1.9	
Dinoseb	0.229	0.236				0.18956	0.99766	
4-Nitroquinoline-1-oxide	0.011	0.012				0.01359	20	<-
Methapyriline	0.236	0.224				0.23932	8.2	
Aramite	0.163	0.165				0.15817	3.9	
p-Dimethylaminoazobenzene	0.254	0.257				0.24136	5.9	
2-Acetylaminofluorene	0.550	0.549				0.49405	12.7	
7,12-Dimethylbenz(a)anthracene	0.545	0.544				0.51192	6.1	
3-Methylcholanthrene	0.438	0.434				0.42195	3.9	
N-Nitrosopiperidine	0.206	0.204				0.20005	5.7	
1,3,5-Trinitrobenzene	0.911	0.914				0.84283	12.4	
Diallate (Avadex)	0.628	0.659				0.62792	4.2	
Isodrin	0.132	0.133				0.12784	3.8	
Chlorobenzilate	0.328	0.340				0.32502	3.2	
Kepone	0.094	0.089				0.10114	7.7	
0,0,0-Triethylphosphorothioate	0.835	0.834				0.80818	3.5	
==========								
2-Fluorophenol(SURR)	1.366	1.411				1.33393	4.2	
Phenol-d5(SURR)	1.833	1.877				1.75535	5.5	
Nitrobenzene-d5(SURR)	0.476	0.495				0.47308	3.5	
2-Fluorobiphenyl(SURR)	1.515	1.534				1.49026	2.4	
2,4,6-Tribromophenol(SURR)	0.225	0.224				0.22176	3.7	
p-Terphenyl-d14(SURR)	0.820	0.806				0.81383	1.4	

Average Used: 4.7

040213 1554

FORM VI

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1327

CCV ID: SSC1146551 Lab File ID: BSSEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3,3'-Dichlorobenzidine	0.42003	0.40677	3.2	AVRG	
Acetophenone	0.60968	0.55676	8.7	AVRG	

040213 1554

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1608

CCV ID: SSC1146542 Lab File ID: AP9SEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
2-Picoline	1.70949	1.666	2.5	AVRG	
N-Nitrosomethylethylamine	0.76276	0.71724	6.0	AVRG	
N-Nitrosodiethylamine	0.7239	0.74747	3.3	AVRG	
Methylmethanesulfonate	0.85648	0.90027	5.1	AVRG	
Ethyl methanesulfonate	1.12038	1.326	18.4	AVRG	
Pentachloroethane	0.57996	0.56907	1.9	AVRG	
N-Nitrosopyrrolidine	0.7776	0.79364	2.1	AVRG	
Acetophenone	0.60968	0.61419	0.7	AVRG	
N-Nitrosomorpholine	0.77865	0.80317	3.1	AVRG	
o-Toluidine	2.35934	2.378	0.8	AVRG	
a,a-Dimethylphenethylamine	0.82558	0.81767	1.0	AVRG	
2,6-Dichlorophenol	0.30979	0.34356	10.9	AVRG	
Hexachloropropene	0.30528	0.32203	5.5	AVRG	
N-Nitrosodibutylamine	0.32647	0.33136	1.5	AVRG	
Isosafrole	0.2912	0.32106	10.3	AVRG	
1,2,4,5-Tetrachlorobenzene	0.6827	0.71968	5.4	AVRG	
Safrole	0.25328	0.2871	13.4	AVRG	
1,4-Naphthoquinone	0.44919	0.50468	12.4	AVRG	
1,3-Dinitrobenzene	0.22077	0.26182	18.6	AVRG	
Pentachlorobenzene	0.59029	0.60775	3.0	AVRG	
1-Naphthylamine	1.164	1.044	10.3	AVRG	
2-Naphthylamine	1.32332	1.342	1.4	AVRG	
2,3,4,6-Tetrachlorophenol	0.38814	0.38821	0.0	AVRG	
5-Nitro-o-toluidine	0.39423	0.39001	1.1	AVRG	
p-Phenylenediamine	0.42963	0.44285	3.1	AVRG	
Phenacetin	0.43346	0.4414	1.8	AVRG	
4-Aminobiphenyl	0.83479	0.81621	2.2	AVRG	
Pronamide	0.37203	0.40088	7.8	AVRG	
Pentachloronitrobenzene(PCNB)	0.11481	0.12184	6.1	AVRG	
Dinoseb	45	45.3	0.7	LINR	
4-Nitroquinoline-1-oxide	0.01359	0.01562	14.9	AVRG	
Methapyriline	0.23932	0.17372	27.4	AVRG	
Aramite	0.15817	0.12361	21.8	AVRG	
p-Dimethylaminoazobenzene	0.24136	0.25589	6.0	AVRG	
2-Acetylaminofluorene	0.49405	0.5085	2.9	AVRG	
7,12-Dimethylbenz(a)anthracene	0.51192	0.52817	3.2	AVRG	

040213 1554

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1608

CCV ID: SSC1146542 Lab File ID: AP9SEC.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3-Methylcholanthrene	0.42195	0.41649	1.3	AVRG	
N-Nitrosopiperidine	0.20005	0.21137	5.7	AVRG	
1,3,5-Trinitrobenzene	0.84283	0.48725	42.2	AVRG	
Diallate (Avadex)	0.62792	0.63992	1.9	AVRG	
Isodrin	0.12784	0.14212	11.2	AVRG	
Chlorobenzilate	0.32502	0.34095	4.9	AVRG	
Kepone	0.10114	0.10809	6.9	AVRG	
0,0,0-Triethylphosphorothioate	0.80818	0.81984	1.4	AVRG	

Average Used: 7.1

040213 1554

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1628

CCV ID: SSC1146533 Lab File ID: 8270SECB.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
Pyridine		1.6416	1.561	4.9	AVRG		
N-Nitrosodimethylamine		0.12505	0.13888	11.1	AVRG		
Aniline		1.86251	2.036	9.3	AVRG		
Bis(2-chloroethyl)ether		1.30398	1.54	18.1	AVRG		
Phenol	*	1.83559	1.9	3.5	AVRG	*	
2-Chlorophenol		1.30741	1.362	4.2	AVRG		
1,3-Dichlorobenzene		1.50207	1.505	0.2	AVRG		
1,4-Dichlorobenzene	*	1.55526	1.561	0.4	AVRG	*	
1,2-Dichlorobenzene		1.4123	1.433	1.5	AVRG		
Benzyl alcohol		0.89003	0.87389	1.8	AVRG		
2,2'-Oxybis(1-chloropropane)		1.10869	1.208	9.0	AVRG		
2-Methylphenol		1.09615	1.184	8.0	AVRG		
Hexachloroethane		0.61769	0.6251	1.2	AVRG		
N-Nitroso-di-n-propylamine	#	1.05806	1.248	18.0	AVRG	#	
4-Methylphenol		1.63028	1.72	5.5	AVRG		
Nitrobenzene		0.45628	0.47338	3.7	AVRG		
Isophorone		0.8192	0.82765	1.0	AVRG		
2-Nitrophenol	*	0.2082	0.21415	2.9	AVRG	*	
2,4-Dimethylphenol		0.31641	0.37409	18.2	AVRG		
Bis(2-chloroethoxy)methane		0.484	0.56255	16.2	AVRG		
2,4-Dichlorophenol	*	0.33814	0.34374	1.7	AVRG	*	
1,2,4-Trichlorobenzene		0.36489	0.3779	3.6	AVRG		
4-Chloroaniline		0.44254	0.4785	8.1	AVRG		
Hexachlorobutadiene	*	0.23702	0.27236	14.9	AVRG	*	
4-Chloro-3-methylphenol	*	0.37931	0.40467	6.7	AVRG	*	
Hexachlorocyclopentadiene	#	0.49456	0.52672	6.5	AVRG	#	
2,4,6-Trichlorophenol	*	0.43642	0.46349	6.2	AVRG	*	
2,4,5-Trichlorophenol		0.47466	0.5078	7.0	AVRG		
2-Chloronaphthalene		1.18274	1.215	2.7	AVRG		
2-Nitroaniline		0.39125	0.43649	11.6	AVRG		
Dimethylphthalate		1.37896	1.587	15.1	AVRG		
2,6-Dinitrotoluene		0.32433	0.33167	2.3	AVRG		
3-Nitroaniline		0.31834	0.34846	9.5	AVRG		
2,4-Dinitrophenol	#	45	49.7	10.4	LINR	#	0.2502
Dibenzofuran		1.61907	1.692	4.5	AVRG		
2,4-Dinitrotoluene		0.41569	0.43229	4.0	AVRG		

040213 1554

FORM VII

7SSC

SEMI-VOLATILE ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/16/13 Time: 1628

CCV ID: SSC1146533 Lab File ID: 8270SECB.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
4-Nitrophenol	#	0.23538	0.25615	8.8	AVRG	#
4-Chlorophenyl-phenylether		0.73922	0.83625	13.1	AVRG	
Diethylphthalate		1.28932	1.438	11.5	AVRG	
4-Nitroaniline		0.2907	0.32625	12.2	AVRG	
4,6-Dinitro-2-methylphenol		45	46.5	3.3	LINR	
N-Nitrosodiphenylamine	*	0.53761	0.64288	19.6	AVRG	*
4-Bromophenyl-phenylether		0.23305	0.27188	16.7	AVRG	
Hexachlorobenzene		0.24232	0.26927	11.1	AVRG	
Pentachlorophenol	*	0.1582	0.17478	10.5	AVRG	*
Di-n-butylphthalate		1.24427	1.49	19.7	AVRG	
Butylbenzylphthalate		0.47936	0.55596	16.0	AVRG	
Bis(2-ethylhexyl)phthalate		0.67976	0.77263	13.7	AVRG	
Di-n-octylphthalate	*	1.22836	1.424	15.9	AVRG	*
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2-Fluorophenol(SURR)		1.33393	1.43	7.2	AVRG	
Phenol-d5(SURR)		1.75535	1.816	3.5	AVRG	
Nitrobenzene-d5(SURR)		0.47308	0.47773	1.0	AVRG	
2-Fluorobiphenyl(SURR)		1.49026	1.505	1.0	AVRG	
2,4,6-Tribromophenol(SURR)		0.22176	0.23631	6.6	AVRG	
p-Terphenyl-d14(SURR)		0.81383	0.77463	4.8	AVRG	

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1105

CCV ID: CCV1147415 Lab File ID: 8270CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type		RRF
Pyridine		1.6416	1.598	2.7	AVRG		
N-Nitrosodimethylamine		0.12505	0.11593	7.3	AVRG		
Aniline		1.86251	1.774	4.8	AVRG		
Bis(2-chloroethyl)ether		1.30398	1.3	0.3	AVRG		
Phenol	*	1.83559	1.828	0.4	AVRG	*	
2-Chlorophenol		1.30741	1.324	1.3	AVRG		
1,3-Dichlorobenzene		1.50207	1.479	1.5	AVRG		
1,4-Dichlorobenzene	*	1.55526	1.536	1.2	AVRG	*	
1,2-Dichlorobenzene		1.4123	1.427	1.0	AVRG		
Benzyl alcohol		0.89003	0.90576	1.8	AVRG		
2,2'-Oxybis(1-chloropropane)		1.10869	1.095	1.2	AVRG		
2-Methylphenol		1.09615	1.091	0.5	AVRG		
Hexachloroethane		0.61769	0.61501	0.4	AVRG		
N-Nitroso-di-n-propylamine	#	1.05806	1.049	0.9	AVRG	#	
4-Methylphenol		1.63028	1.638	0.5	AVRG		
Nitrobenzene		0.45628	0.45971	0.8	AVRG		
Isophorone		0.8192	0.83557	2.0	AVRG		
2-Nitrophenol	*	0.2082	0.21688	4.2	AVRG	*	
2,4-Dimethylphenol		0.31641	0.31327	1.0	AVRG		
Bis(2-chloroethoxy)methane		0.484	0.49983	3.3	AVRG		
2,4-Dichlorophenol	*	0.33814	0.34446	1.9	AVRG	*	
1,2,4-Trichlorobenzene		0.36489	0.37167	1.9	AVRG		
4-Chloroaniline		0.44254	0.44615	0.8	AVRG		
Hexachlorobutadiene	*	0.23702	0.2374	0.2	AVRG	*	
4-Chloro-3-methylphenol	*	0.37931	0.38696	2.0	AVRG	*	
Hexachlorocyclopentadiene	#	0.49456	0.49264	0.4	AVRG	#	
2,4,6-Trichlorophenol	*	0.43642	0.43681	0.1	AVRG	*	
2,4,5-Trichlorophenol		0.47466	0.47889	0.9	AVRG		
2-Chloronaphthalene		1.18274	1.177	0.5	AVRG		
2-Nitroaniline		0.39125	0.40148	2.6	AVRG		
Dimethylphthalate		1.37896	1.395	1.2	AVRG		
2,6-Dinitrotoluene		0.32433	0.3371	3.9	AVRG		
3-Nitroaniline		0.31834	0.31897	0.2	AVRG		
2,4-Dinitrophenol	#	45	45.8	1.8	LINR	#	0.22806
Dibenzofuran		1.61907	1.629	0.6	AVRG		
2,4-Dinitrotoluene		0.41569	0.41358	0.5	AVRG		

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1105

CCV ID: CCV1147415 Lab File ID: 8270CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND		Expected	Found	%D / %Drift	Curve Type	RRF
4-Nitrophenol	#	0.23538	0.23531	0.0	AVRG	#
4-Chlorophenyl-phenylether		0.73922	0.72451	2.0	AVRG	
Diethylphthalate		1.28932	1.261	2.2	AVRG	
4-Nitroaniline		0.2907	0.28253	2.8	AVRG	
4,6-Dinitro-2-methylphenol		45	48.1	6.9	LINR	
N-Nitrosodiphenylamine	*	0.53761	0.53091	1.2	AVRG	*
4-Bromophenyl-phenylether		0.23305	0.22782	2.2	AVRG	
Hexachlorobenzene		0.24232	0.24537	1.3	AVRG	
Pentachlorophenol	*	0.1582	0.18209	15.1	AVRG	*
Di-n-butylphthalate		1.24427	1.249	0.4	AVRG	
Butylbenzylphthalate		0.47936	0.47693	0.5	AVRG	
Bis(2-ethylhexyl)phthalate		0.67976	0.68776	1.2	AVRG	
Di-n-octylphthalate	*	1.22836	1.279	4.1	AVRG	*
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2-Fluorophenol(SURR)		1.33393	1.333	0.1	AVRG	
Phenol-d5(SURR)		1.75535	1.75	0.3	AVRG	
Nitrobenzene-d5(SURR)		0.47308	0.47576	0.6	AVRG	
2-Fluorobiphenyl(SURR)		1.49026	1.489	0.1	AVRG	
2,4,6-Tribromophenol(SURR)		0.22176	0.21849	1.5	AVRG	
p-Terphenyl-d14(SURR)		0.81383	0.76929	5.5	AVRG	

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1137

CCV ID: CCV1147417 Lab File ID: BSCCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3,3'-Dichlorobenzidine	0.42003	0.45534	8.4	AVRG	
Acetophenone	0.60968	0.58895	3.4	AVRG	

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1157

CCV ID: CCV1147416 Lab File ID: AP9CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
2-Picoline	1.70949	1.721	0.7	AVRG	
N-Nitrosomethylethylamine	0.76276	0.76312	0.0	AVRG	
N-Nitrosodiethylamine	0.7239	0.75421	4.2	AVRG	
Methylmethanesulfonate	0.85648	0.85359	0.3	AVRG	
Ethyl methanesulfonate	1.12038	1.155	3.1	AVRG	
Pentachloroethane	0.57996	0.58143	0.3	AVRG	
N-Nitrosopyrrolidine	0.7776	0.81519	4.8	AVRG	
Acetophenone	0.60968	0.5919	2.9	AVRG	
N-Nitrosomorpholine	0.77865	0.76725	1.5	AVRG	
o-Toluidine	2.35934	2.409	2.1	AVRG	
a,a-Dimethylphenethylamine	0.82558	0.84798	2.7	AVRG	
2,6-Dichlorophenol	0.30979	0.32921	6.3	AVRG	
Hexachloropropene	0.30528	0.30036	1.6	AVRG	
N-Nitrosodibutylamine	0.32647	0.32065	1.8	AVRG	
Isosafrole	0.2912	0.28812	1.1	AVRG	
1,2,4,5-Tetrachlorobenzene	0.6827	0.66316	2.9	AVRG	
Safrole	0.25328	0.25311	0.1	AVRG	
1,4-Naphthoquinone	0.44919	0.47834	6.5	AVRG	
1,3-Dinitrobenzene	0.22077	0.23595	6.9	AVRG	
Pentachlorobenzene	0.59029	0.57544	2.5	AVRG	
1-Naphthylamine	1.164	1.178	1.2	AVRG	
2-Naphthylamine	1.32332	1.317	0.5	AVRG	
2,3,4,6-Tetrachlorophenol	0.38814	0.38872	0.1	AVRG	
5-Nitro-o-toluidine	0.39423	0.40614	3.0	AVRG	
p-Phenylenediamine	0.42963	0.43559	1.4	AVRG	
Phenacetin	0.43346	0.44802	3.4	AVRG	
4-Aminobiphenyl	0.83479	0.85907	2.9	AVRG	
Pronamide	0.37203	0.37909	1.9	AVRG	
Pentachloronitrobenzene(PCNB)	0.11481	0.10482	8.7	AVRG	
Dinoseb	45	46.2	2.7	LINR	
4-Nitroquinoline-1-oxide	0.01359	0.01448	6.5	AVRG	
Methapyriline	0.23932	0.26185	9.4	AVRG	
Aramite	0.15817	0.16604	5.0	AVRG	
p-Dimethylaminoazobenzene	0.24136	0.25364	5.1	AVRG	
2-Acetylaminofluorene	0.49405	0.54794	10.9	AVRG	
7,12-Dimethylbenz(a)anthracene	0.51192	0.52439	2.4	AVRG	

040213 1554

FORM VII

7

SEMI-VOLATILE ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SMSD04 CalibrationDate: 01/22/13 Time: 1157

CCV ID: CCV1147416 Lab File ID: AP9CCV.d Init. Calib. Date Begin: 01/16/13 End: 01/16/13

GC Column: HPMS-5 ID: 0.25 (mm)

Min RRF for SPCC(#) = 0.05 Max %D for CCC(*) = 20 %

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
3-Methylcholanthrene	0.42195	0.42524	0.8	AVRG	
N-Nitrosopiperidine	0.20005	0.20688	3.4	AVRG	
1,3,5-Trinitrobenzene	0.84283	0.82349	2.3	AVRG	
Diallate (Avadex)	0.62792	0.63019	0.4	AVRG	
Isodrin	0.12784	0.13071	2.2	AVRG	
Chlorobenzilate	0.32502	0.32987	1.5	AVRG	
Kepone	0.10114	0.10613	4.9	AVRG	
0,0,0-Triethylphosphorothioate	0.80818	0.80889	0.1	AVRG	

FL-PRO Organics

040213 1554

CASE NARRATIVE
FL-PRO Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception Report is attached to the Chain-of-Custody or a communication form is included in the addendum with this package.

II. HOLDING TIMES

A. Sample Preparation:

All holding times were met.

B. Sample Analysis:

All holding times were met.

III. METHODS

Samples were analyzed according to Spectrum Analytical's Standard Operating Procedures and Method FL-PRO

IV. PREPARATION

Water samples were prepared by SW846 EPA 3510 for FL PRO semi-volatile analysis.

V. ANALYSIS

A. Calibration:

All acceptance criteria were met.

B. Blanks:

All acceptance criteria were met.

C. Surrogates:

All acceptance criteria were met with the exception of:

Sample Q3-TFS-MW-17 was recovered below criteria for the following surrogate: o-Terphenyl surrogate at 79.6 % with criteria of (82-142). The most probable cause for this recovery is matrix interference near the elution of the surrogate since there was a positive result for TPH at 1900ug/L. No further action was taken.

Sample Q3-TFS-MW-17-MS was recovered below criteria for the following surrogate: o-Terphenyl surrogate at 64.7 % with criteria of (82-142). The most probable cause for this recovery is matrix interference near the elution of the surrogate since there was a positive result for TPH at 1900ug/L in the parent sample. No further action was taken.

CASE NARRATIVE
FL-PRO Organic

Spectrum Analytical Inc. Lab Reference No./SDG: 3508012

Client: CH2M Hill

Sample Q3-TFS-MW-17-MSD was recovered below criteria for the following surrogate: o-Terphenyl surrogate at 76.6 % with criteria of (82-142). The most probable cause for this recovery is matrix interference near the elution of the surrogate since there was a positive result for TPH at 1900ug/L in the parent sample. No further action was taken.

Samples coded accordingly.

D. Spikes:

1. Laboratory Control Spikes (LCS)

All acceptance criteria were met.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

A client requested MS/SD set was analyzed.
All percent recovery and relative percent difference (RPD) criteria were met.

E. Internal Standards:

This method does not require the use of internal standards.

F. Samples:

Sample analysis proceeded normally.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum Analytical Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as, verified by the following signature.

SIGNED: DATE: 01/25/2013

FL-PRO ORGANIC CROSS REFERENCE TABLE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Method: FL-PRO

EPA Sample No	Lab Sample ID
Q3-TFS-EB-01	350801202
Q3-TFS-MW-17	350801203

040213 1554

FL-PRO Sample Data

040213 1554

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-EB-01

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801202 Lab File ID: 012-2.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 2 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1656

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	502	U	251	502	502

040213 1554

Form I

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

Q3-TFS-MW-17

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.0

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 350801203 Lab File ID: 012-3.D

Sample wt/vol: 995 Units: ML Date Received: 01/18/13

Concentrated Extract Volume: 2 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1718

PercentSolids: 0 decanted : Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	1900		251	502	502

040213 1554

Form I

FL-PRO QC Summary

040213 1555

1

FL-PRO ORGANIC ANALYSIS DATA SHEET

EPA Sample No.

159128MB

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Matrix: WATER Lab Sample ID: 159128MB Lab File ID: 12066MB.D

Sample wt/vol: 1000 Units: ML Date Received: 01/22/13

Concentrated Extract Volume: 2 Date Extracted: 01/22/13

Level:(low/med) LOW Date Analyzed: 01/22/13 Time: 1318

PercentSolids: 0 decanted : (Dilution Factor: 1

Extraction: SEPF Station ID: Method: FL-PRO

GPC Cleanup : (Y/N) N pH:

Column(1): RTX-5 ID: 0.53 (mm)

CONCENTRATION UNITS: UG/L

CAS NO.	*ANALYTE*	*RESULT*	*Q*	*MDL*	*LOD*	*LOQ*
5289290-40-0	TPH	500	U	250	500	500

040213 1555

Form I

FL-PRO ORGANIC METHOD BLANK SUMMARY

EPA Sample No.

159128MB

Lab Name: Spectrum Analytical, Inc Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Lab File ID: 12066MB.D Lab Sample ID: 159128MB

Instrument ID: SFID01 Date Extracted: 01/22/13

Matrix: WATER Date Analyzed: 01/22/13

Level:(low/med) LOW Time Analyzed: 1318

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	159129LCS	159129LCS	12066LCS.D	01/22/13	1405
2	Q3-TFS-EB-01	350801202	012-2.D	01/22/13	1656
3	Q3-TFS-MW-17	350801203	012-3.D	01/22/13	1718
4	Q3-TFS-MW-17-MS	350801204	012-4.D	01/22/13	1741
5	Q3-TFS-MW-17-MSD	350801205	012-5.D	01/22/13	1803

COMMENTS:

Page 1 of 1

040213 1555

Form IV

2A

WATER FL-PRO ORGANIC SURROGATE RECOVERY

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG NO.: 3508012

Column(1): RTX-5 ID: 0.53 (mm)

EPA Sample NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	TOT OUT
159128MB	93.0	66.7					0
159129LCS	84.0	66.7					0
Q3-TFS-EB-01	98.5	79.6					0
Q3-TFS-MW-17	79.6 *	73.0					1
Q3-TFS-MW-17-MS	64.7 *	63.0					1
Q3-TFS-MW-17-MSD	76.6 *	61.0					1

Control Limits

S1	=	o-Terphenyl Surrogate	82 - 142
S2	=	Nonatriacontane (C-39)	42 - 193

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out
Control limit source: (lab/method) METHOD

Form II

040213 1555

FL-PRO ORGANIC ANALYTICAL SEQUENCE

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

GC Column: RTX-5 ID: 0.53 (mm) Init. Calib. Date: 01/18/13

Instrument ID: SFID01

THE ANALYTICAL SEQUENCE OF PERFORMANCE EVALUATION MIXTURES, BLANKS, SAMPLES, AND STANDARDS IS GIVEN BELOW:

MIDCAL SURROGATE RT FROM INITIAL CALIBRATION
S1 : 3.72 S2 : 8.58 S3 : S4 :

	CLIENT SAMPLE NO	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED	S1 RT #	S2 RT #	S3 RT #	S4 RT #
1	STD1146337	48525	PROCAL7.D	01/18/13	0725	3.71	8.56		
2	STD1146336	48524	PROCAL6.D	01/18/13	0747	3.71	8.57		
3	STD1146335	48523	PROCAL5.D	01/18/13	0809	3.71	8.57		
4	STD1146334	49061	PROCAL4.D	01/18/13	0831	3.72	8.58		
5	STD1146333	48522	PROCAL3.D	01/18/13	0854	3.73	8.63		
6	STD1146332	48521	PROCAL2.D	01/18/13	0916	3.72	8.59		
7	STD1146331	48520	PROCAL1.D	01/18/13	0938	3.72	8.6		
8	SSC1146341	49064	PROSEC.D	01/18/13	1001	3.72	8.59		
9	CCV1146691	49061	PROCCV1.D	01/22/13	1047	3.73	8.64		
10	159128MB	159128MB	12066MB.D	01/22/13	1318	3.71	8.53		
11	159129LCS	159129LCS	12066LCS.D	01/22/13	1405	3.7	8.5		
12	CCV1146692	49061	PROCCV2.D	01/22/13	1634	3.7	8.49		
13	Q3-TFS-EB-01	350801202	012-2.D	01/22/13	1656	3.7	8.48		
14	Q3-TFS-MW-17	350801203	012-3.D	01/22/13	1718	3.7	8.5		
15	Q3-TFS-MW-17-MS	350801204	012-4.D	01/22/13	1741	3.71	8.53		
16	Q3-TFS-MW-17-MSD	350801205	012-5.D	01/22/13	1803	3.71	8.55		
17	CCV1146693	49061	PROCCV3.D	01/22/13	1910	3.7	8.49		

			QC LIMITS
S1	=	o-Terphenyl Surrogate	(+/- 0.2 MINUTES)
S2	=	Nonatriacontane (C-39)	(+/- 0.46 MINUTES)

Column used to flag retention time values with an asterisk.
* Values outside of QC limits

Page 1 of 1

040213 1555

FORM VIII

3

FL-PRO ORGANIC LAB CONTROL SAMPLE RECOVERY

EPA Sample No.

159129LCS

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	LCS CONCENTRATION ug/L	LCS % REC #	LCS % RPD	QC LIMITS RPD	QC LIMITS REC.
TPH	3400	2400	70.6			55 - 118

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

040213 1555

Form III

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.P

Q3-TFS-MW-17-MS

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	SAMPLE CONCENTRATION ug/L	MS CONCENTRATION ug/L	MS % REC #	QC LIMITS REC.
TPH	3400	1900	3700	52.7	41 - 101

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1555

3

FL-PRO ORGANIC MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

EPA Sample No.

Q3-TFS-MW-17-MSD

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 4268

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

COMPOUND	SPIKE ADDED ug/L	MSD CONCENTRATION ug/L	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
TPH	3400	3900	58.5	5.3	20	41 - 101

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 1 outside limits

Column to be used to flag recovery values with an asterisk

* Values outside QC limits

Control limit source: (lab/method) METHOD

COMMENTS:

Form III

040213 1555

FL-PRO Standards Data

040213 1555

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

LAB FILE ID: RRF0.17 =PROCAL1.D RRF0.34 =PROCAL2.D
RRF0.85 =PROCAL3.D RRF1.7 =PROCAL4.D RRF2.55 =PROCAL5.D

COMPOUND	RRF0.17	RRF0.34	RRF0.85	RRF1.7	RRF2.55
TPH	10825629.41	8494755.882	7226644.706	6960075.882	7599983.922
==========					
Nonatriacontane (C-39)(SURR)	5715666.667	5732746.667	6087946.667	5835133.333	6206693.333
o-Terphenyl Surrogate(SURR)			7524920	7123980	6496620

040213 1555

FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

LAB FILE ID: RRF3.4 =PROCAL6.D RRF5.1 =PROCAL7.D

COMPOUND	RRF3.4	RRF5.1			
TPH	7274761.765	6855578.235			
==========					
Nonatriacontane (C-39)(SURR)	6119546.667	5478013.333			
o-Terphenyl Surrogate(SURR)	5806080	4846120			

040213 1555

FORM VI

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

COMPOUND	CURVE	COEFFICIENTS AO	COEFFICIENTS A1	%RSD OR R^2
TPH	AVRG		7891061.4	17.8
==========				
Nonatriacontane (C-39)(SURR)	AVRG		5882249.524	4.5
o-Terphenyl Surrogate(SURR)	AVRG		6359544	16.8

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

Min RRF for SPCC(#) = 0 Max %RSD for CCC(*) = 0 %

LAB FILE ID: RT1: PROCAL1.D RT2: PROCAL2.D
RT3: PROCAL3.D RT4: PROCAL4.D RT5: PROCAL5.D

COMPOUND	RT1	RT2	RT3	RT4	RT5	MIDCAL RT	RT WINDOW FROM	TO
TPH	5.105	5.105	5.105	5.105	5.105			
==========								
Nonatriacontane (C-39)(SURR)	8.597	8.590	8.630	8.583	8.570			
o-Terphenyl Surrogate(SURR)			3.730	3.720	3.713			

FL-PRO ORGANIC INITIAL CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No. SAS No: SDG No.: 3508012

Instrument ID: SFID01 Calibration Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm) Calibration Time Begin: 725 End: 938

Min RRF for SPCC(#) = 0 Max %RSD for CCC(*) = 0 %

LAB FILE ID: RT6: PROCAL6.D RT7: PROCAL7.D

COMPOUND	RT6	RT7				MIDCAL RT	RT WINDOW FROM	TO
TPH	5.105	5.105				5.105	0.480	9.730
==========								
Nonatriacontane (C-39)(SURR)	8.570	8.560				8.583	8.123	9.043
o-Terphenyl Surrogate(SURR)	3.713	3.713				3.720	3.520	3.920

7SSC

FL-PRO ORGANIC SECONDARY SOURCE CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SFID01 CalibrationDate: 01/18/13 Time: 1001

CCV ID: SSC1146341 Lab File ID: PROSEC.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6805058.235	13.8	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	6029946.667	2.5	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6764560	6.4	AVRG	

040213 1555

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SFID01 CalibrationDate: 01/22/13 Time: 1047

CCV ID: CCV1146691 Lab File ID: PROCCV1.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6590394.706	16.5	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5102213.333	13.3	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6611620	4.0	AVRG	

040213 1555

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SFID01 CalibrationDate: 01/22/13 Time: 1634

CCV ID: CCV1146692 Lab File ID: PROCCV2.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6335263.529	19.7	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5098013.333	13.3	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6498920	2.2	AVRG	

040213 1555

FORM VII

7

FL-PRO ORGANIC CONTINUING CALIBRATION DATA

Lab Name: Spectrum Analytical, Inc. Contract: NASKW TFS 426847.PP.FW.09

Lab Code : PEL Case No.: SAS No: SDG No.: 3508012

Instrument ID: SFID01 CalibrationDate: 01/22/13 Time: 1910

CCV ID: CCV1146693 Lab File ID: PROCCV3.D Init. Calib. Date Begin: 01/18/13 End: 01/18/13

GC Column: RTX-5 ID: 0.53 (mm)

COMPOUND	Expected	Found	%D / %Drift	Curve Type	RRF
TPH	7891061.3	6435137.647	18.5	AVRG	
==========					
Nonatriacontane (C-39)(SURR)	5882249.5	5160600	12.3	AVRG	
o-Terphenyl Surrogate(SURR)	6359544	6598160	3.8	AVRG	

040213 1555

FORM VII

Chain of Custody Documentation

040213 1555

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Page 1 of 1 — 3508012 MIC

CHAIN OF CUSTODY RECORD

☐ 11 Almgren Drive, Agawam, MA 01001, (413) 789-9018
☒ 8405 Benjamin Road, Ste A, Tampa, FL 33634, (813) 888-9507
☐ 175 Metro Center Blvd, Warwick, RI 02886, (401) 732-3400

Special Handling:
TAT- Indicate Date Needed: 28 days
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Greg Rowell, CH2M HILL, Atlanta, GA
Telephone #: 770 604 9182 x 54301
Project Mgr. Greg Rowell

Invoice To: Greg Rowell — on file —
P.O. No.: RQN:

Project No.: 426847.PP.FW.09
Site Name: NASKW TFS
Location: Boca Chica State: FL
Sampler(s): Nikki Monroe

1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid 7=CH_3OH
8= $NaHSO_4$ 9= Deionized Water 10=H_3PO_4 11= 12=

List preservative code below: 2 3

QA/QC Reporting Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic		8260B	8270D	8270 SIM	FL-PRO					
-01	Q3-TFS-TB-02	1-17-13	—	G	W	2					X								TB
-02	Q3-TFS-EB-01	1-17-13	1020	G	GW	3	3				X	X	X	X					EB
-03	Q3-TFS-MW-17	1-17-13	1130	G	GW	3	3				X	X	X	X					
-04	Q3-TFS-MW-17-MS	1-17-13	1135	G	GW	3	3				X	X	X	X					MS
-05	Q3-TFS-MW-17-MSD	1-17-13	1135	G	GW	3	3				X	X	X	X					MSD

Analyses:

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State-specific reporting standards: per contract

Relinquished by:	Received by:	Date:	Time:	Temp°C
[signature] / CH2M HILL	Fed Ex	1-17-13	14 00	4.2
	[signature]	1/18/13	09:50	3.6

☒ EDD Format CH2M HILL
☐ E-mail to greg.rowell@ch2m.com

PH<2 8260, FL-PRO

Condition upon receipt:
☐ Ambient ☒ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

3508012

157

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8756 4331 4200

Form ID No. 0200

1 From

Date 1-17-12 [redacted]

Sender's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

City [illegible] State [illegible] ZIP [illegible]

2 Your Internal Billing Reference [illegible]

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [illegible] State [illegible] ZIP [illegible]

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8756 4331 4200

fedex.com 1.800.GoFedEx 1.800.463.3339

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages: For packages over 1 FedEx Express

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipm will be delivered on Monday unless SATURD. Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.

☐ Indirect Signat — If no one is available address, someone at address may sign for residential deliveries

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft On

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☐ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Obtain Ac

Total Packages 1 Total Weight 119 lbs. Total Declared Value† $ ____ .00 Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

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FedEx Express NEW Package US Airbill

FedEx Tracking Number 8756 4331 4195

Form ID No. 0200

1 From

Date 1-17-12 [redacted]

Sender's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

City [illegible] State [illegible] ZIP [illegible]

2 Your Internal Billing Reference 1126807.PA.FW.09

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [illegible] State [illegible] ZIP [illegible]

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

3508012

8756 4331 4195

fedex.com 1.800.GoFedEx 1.800.463.3339

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to For packages over 150 lbs., FedEx Express Freigh

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.

☐ Indirect Signature — If no one is available at rec address, someone at a neig address may sign for delive residential deliveries only.

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cas Obtain rec Acct. N

Total Packages 1 Total Weight [illegible] lbs. Total Declared Value† $ ____ .00 Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

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pH LOG SHEET

WO#: 3508012

Client/Project NAS Key West

SampNumber	Method	Matrix		pH	Containers	Temp	Acid	
350801201	8260	W	<	2	(2)		HCl	mkeohane 18-Jan-13
350801202	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 18-Jan-13
350801202	8260	W	<	2	(3)		HCl	mkeohane 18-Jan-13
350801203	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 18-Jan-13
350801203	8260	W	<	2	(3)		HCl	mkeohane 18-Jan-13
350801204	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 18-Jan-13
350801204	8260	W	<	2	(3)		HCl	mkeohane 18-Jan-13
350801205	FL-PRO	W	<	2	(1)		H2SO4	mkeohane 18-Jan-13
350801205	8260	W	<	2	(3)		HCl	mkeohane 18-Jan-13

Sample Receipt Confirmation Sheet

Client Information

SDG:	3508012	**Level:**	3
Client:	CH2M Hill	**Date Rec'd:**	1/18/2013 9:50:00 AM
Profile:	91013	**Due Date:**	2/1/2013
Project:	Boca Chica Truck Fill Stand - JP-5	**Profile Name:**	NAS Key West

Sample Verification

Samples/Cooler Secure?	Yes	**COC Present?**	Yes
Temperature of Samples:	4.2,3.6	**All Samples on COC accounted For?**	Yes
Number of Coolers Received:	2	**All Samples Rec'd Intact?**	Yes
Temp Gun ID:	101722663	**Sample Vol. Sufficient For Analysis**	Yes
pH Verified?	Yes	**Samples Rec'd W/I Hold Time?**	Yes
pH WNL?	Yes	**Are All Samples to be Analyzed?**	Yes
Samples Received By:	Fed-Ex	**Correct Sample Containers?**	Yes
Tracking Number:	314195,875643	**COC Comments written on COC?**	Yes
Profile Picked By:	MG	**Samplers Initials on COC?**	Yes
Soil Origin (Domestic/Foreign):		**Sample Date/Time Indicated?**	Yes
Site Location/Project on COC?	Yes	**TAT Requested:**	STD
Client Project # on COC?	Yes	**Client Requests Verbal Results?**	No
Project Mgr. Indicated on COC?	Yes	**Client Requests Faxed Results?**	No
COC relinquished/Dated by Client?	Yes	**Specific Subcontract Indicated?**	No
COC Received/Dated by SA?	Yes	**Written on Outside Lab Board?**	No
Written on Internal COC?	Yes	**Radioactivity Check?**	No
Lab to Conduct ALL Analyses?	Yes		

Comments

Specific tests noted on COC.

LABEL REVIEW TRC 1/18/13

PEER REVIEW CF 1/21/2013

Client: CH2M Hill

WONo: 3508012 Profile Name: NAS Key West Profile #: 91013

MATRIX W

Sample #	Bottle	Parameter		Check	Received	Date
01	001	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:28 AM
01	002	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
01	001	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:53 PM
02	001	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
02	002	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
02	003	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
02	002	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:17:56 PM
02	004	8270	GCMS semivolatile	In	mkeohane	1/18/2013 10:50:29 AM
02	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:50 AM
02	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/18/2013 10:50:29 AM
02	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/22/2013 9:22:32 AM
02	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/18/2013 10:50:29 AM
02	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/22/2013 9:23:26 AM
03	001	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
03	002	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
03	003	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
03	002	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:18:00 PM
03	004	8270	GCMS semivolatile	In	mkeohane	1/18/2013 10:50:29 AM
03	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:54 AM
03	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/18/2013 10:50:29 AM
03	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/22/2013 9:22:40 AM
03	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/18/2013 10:50:29 AM
03	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/22/2013 9:23:29 AM
04	001	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM

04	002	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
04	003	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
04	002	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:18:05 PM
04	004	8270	GCMS semivolatile	In	mkeohane	1/18/2013 10:50:29 AM
04	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:31:57 AM
04	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/18/2013 10:50:29 AM
04	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/22/2013 9:22:44 AM
04	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/18/2013 10:50:29 AM
04	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/22/2013 9:23:33 AM
05	001	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
05	002	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
05	003	8260	Volatile Organic Compounds	In	mkeohane	1/18/2013 10:50:29 AM
05	002	8260	Volatile Organic Compounds	Consumed	Marcell Stephens	1/25/2013 2:18:09 PM
05	004	8270	GCMS semivolatile	In	mkeohane	1/18/2013 10:50:29 AM
05	004	8270	GCMS semivolatile	Consumed	Ryan Bennett	1/21/2013 9:32:00 AM
05	005	8270_SIM	GCMS semivolatile SIM	In	mkeohane	1/18/2013 10:50:29 AM
05	005	8270_SIM	GCMS semivolatile SIM	Consumed	Ryan Bennett	1/22/2013 9:22:48 AM
05	006	FL-PRO	Petroleum Hydrocarbons	In	mkeohane	1/18/2013 10:50:29 AM
05	006	FL-PRO	Petroleum Hydrocarbons	Consumed	Ryan Bennett	1/22/2013 9:23:36 AM

Addendum

040213 1555

Letter of Acceptance

Customer Name:	CH2M Hill
Date and Time Received:	1/18/2013 9:50:00 AM
Date to be Reported:	2/15/2013
Laboratory Submission Number/SDG:	3508012

Project: NASKW TFS 426847.PP.FW.09

Samples: The submission consisted of 5 samples, including QC, with sample identification shown in the attached data tables.

Tests: The Samples will be analyzed for EPA methods: 8260, 8270, 8270_SIM, FL-PRO.

Sample Custody/COC discrepancies:

None.

Notes:

Temp 4.2,3.6
PH< 2 8260, FL-PRO

Distribution of Report to:

CH2M Hill
Attn: Kama White

Note: Submitted material will be retained for 30 days unless otherwise requested by client or consumed in analysis. Spectrum Analytical letters and reports are for the exclusive use of the client to whom they are addressed. Our letters and reports apply to the sample tested and are not necessarily indicative of the qualities of apparently identical or similar materials.

Log-in Report

Level: 3

Total of: 17 analyses on 5 samples (including QC) *21-Jan-13*

Report/SDG #: 3508012

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-TB-02	350801201		W	1/17/2013	1/18/2013 9:50:00 AM

Method		
8260	Volatile Organic Compounds	8260

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-EB-01	350801202		W	1/17/2013 10:20:00 AM	1/18/2013 9:50:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-17	350801203		W	1/17/2013 11:30:00 AM	1/18/2013 9:50:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-17-MS	350801204		W	1/17/2013 11:35:00 AM	1/18/2013 9:50:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Report/SDG #: 3508012

SampleID	LAB ID	StationID	Matrix	SampleDate	ReceiveDate
Q3-TFS-MW-17-MSD	350801205		W	1/17/2013 11:35:00 AM	1/18/2013 9:50:00 AM

Method		
8260	Volatile Organic Compounds	8260
8270	GCMS semivolatile	8270
8270_SIM	GCMS semivolatile SIM	8270 SIM
FL-PRO	Petroleum Hydrocarbons	FL-PRO

Mark Gudnason [Tampa]

From: Mark Gudnason [Tampa]

Sent: Monday, January 28, 2013 4:12 PM

To: 'Bethany.Garvey@CH2M.com'; Camden.Robinson@CH2M.com; 'Greg.Rowell@CH2M.com'

Subject: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon.
Please note the excursions for the App IX compounds in the LCS associated with the samples for the referenced project and SDGs.

This will be in the case narrative for this run. These samples past the 7 day extraction hold time.

Let me know if you have any questions or if you would like these re-extracted out of hold.

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been historically a poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy)methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). No further action was taken. None of the above compounds were detected in any samples.

Samples coded accordingly.

Mark Gudnason [Tampa]

From: Mark Gudnason [Tampa]
Sent: Monday, January 28, 2013 4:13 PM
To: 'Bethany.Garvey@CH2M.com'; Camden.Robinson@CH2M.com; 'Greg.Rowell@CH2M.com'
Subject: FW: 3508012-8260-NASKW TFS

Good afternoon.
This will be in the case narrative for the referenced method and SDG. Let me know if you have any questions or concerns.

1. Laboratory Control Spikes (LCS)

   All acceptance criteria were met with the exception of:

   LCS 012513LCS11D was analyzed with the water samples on 01/25/13. The following analyte(s) exceeded RPD criteria: Acetone at 30.4 % with criteria of (20). No further action was taken, since all percent recovery criteria were met.

   Samples coded accordingly.

2. Matrix Spike/Matrix Spike Duplicate Samples (MS/SD)

   A client requested MS/SD set was analyzed.
   All percent recovery and relative percent difference (RPD) criteria were met with the exception of:

   MS - Q3-TFS-MW-17-MS was analyzed with the water samples on 01/25/13. The following analyte(s) were recovered below criteria: 1,4-Dichloro-2-butene at 67.8 % with criteria of (68-115) and the following analyte(s) were recovered above criteria:2-Hexanone at 138 % with criteria of (55-130).

   SD - Q3-TFS-MW-17-MSD was analyzed with the water samples on 01/25/13. The following analyte(s) were recovered above criteria: 2-Hexanone at 156 % with criteria of (55-130), Ethyl methacrylate at 128 % with criteria of (73-121). The following analyte(s) exceeded RPD criteria:1,4-Dichloro-2-butene at 27.1 % with criteria of (20), Ethyl methacrylate at 20.8 % with criteria of (20).

   No further action was taken. Samples coded accordingly.

B. Internal Standards:

All acceptance criteria were met.

C. Samples:

Sample analysis proceeded normally.

Analytes were detected in Equipment Blank Q3-TFS-EB-01. The following analyte(s) were detected below RL: Acetone at 3.8 ug/L. The following analyte(s) were detected above RL: Toluene at 3.3 ug/L.

Analytes were detected in Trip Blank Q3-TFS-TB-02. The following analyte(s) were detected below RL: Acetone at 4.2 ug/L. The following analyte(s) were detected above RL: Toluene at 3.2 ug/L.

Mark Gudnason [Tampa]

From: Greg.Rowell@CH2M.com
Sent: Wednesday, January 30, 2013 4:41 PM
To: Mark Gudnason [Tampa]
Subject: FW: NASKW TFS 8270 / 3508006 and 3508012

Mark, do not re-extract.....

From: Robinson, Camden/ATL
Sent: Wednesday, January 30, 2013 4:39 PM
To: Rowell, Greg/ATL; Garvey, Bethany/ATL
Subject: RE: NASKW TFS 8270 / 3508006 and 3508012

You are correct. The analytes listed with low recoveries have been flagged "R" historically, so I would not bother with the re-extraction out of hold time. The high recoveries will be ok, since the sample results were non-detect which means no qualifiers will be needed for those analytes.

Camden L. Robinson

From: Rowell, Greg/ATL
Sent: Wednesday, January 30, 2013 8:42 AM
To: Robinson, Camden/ATL; Garvey, Bethany/ATL
Subject: FW: NASKW TFS 8270 / 3508006 and 3508012

Please advise. I think historically, these analytes have been flagged "R" following validation.

From: Mark Gudnason [Tampa] [mailto:mgudnason@pelab.com]
Sent: Tuesday, January 29, 2013 5:27 PM
To: Garvey, Bethany/ATL; Robinson, Camden/ATL; Rowell, Greg/ATL
Subject: RE: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon,
Would like these re-extracted out of hold?

Mark

From: Mark Gudnason [Tampa]
Sent: Monday, January 28, 2013 4:12 PM
To: 'Bethany.Garvey@CH2M.com'; Camden.Robinson@CH2M.com; 'Greg.Rowell@CH2M.com'
Subject: NASKW TFS 8270 / 3508006 and 3508012

Good afternoon.
Please note the excursions for the App IX compounds in the LCS associated with the samples for the referenced project and SDGs.

This will be in the case narrative for this run. These samples past the 7 day extraction hold time.

Let me know if you have any questions or if you would like these re-extracted out of hold.

All acceptance criteria were met with the exception of:

LCS 159081LCS was analyzed with the water samples extracted on 01/21/13. The following analyte was recovered below criteria: 1,4-Naphthoquinone at 16 % with criteria of (28-143). This compound has been historically a poor performer. No further action was taken, since this compound was not detected in any samples. The following analytes were recovered above criteria: 7,12-Dimethylbenz(a)anthracene at 96.2 % with criteria of (57-95), Pentachlorophenol at 126 % with criteria of (40-115). The following analytes had marginal exceedance limit failures: 2-Naphthylamine at 35.8 % with criteria of (60-140), 3-Methylcholanthrene at 122 % with criteria of (43.2-113.8), a,a-Dimethylphenethylamine at 7.8 % with criteria of (60-140), Bis(2-chloroethoxy) methane at 126 % with criteria of (35-115), Hexachloropropene at 0 % with criteria of (7-119), Safrole at 112 % with criteria of (44-108). No further action was taken. None of the above compounds were detected in any samples.

Samples coded accordingly.

End Of Report

040213 1555